

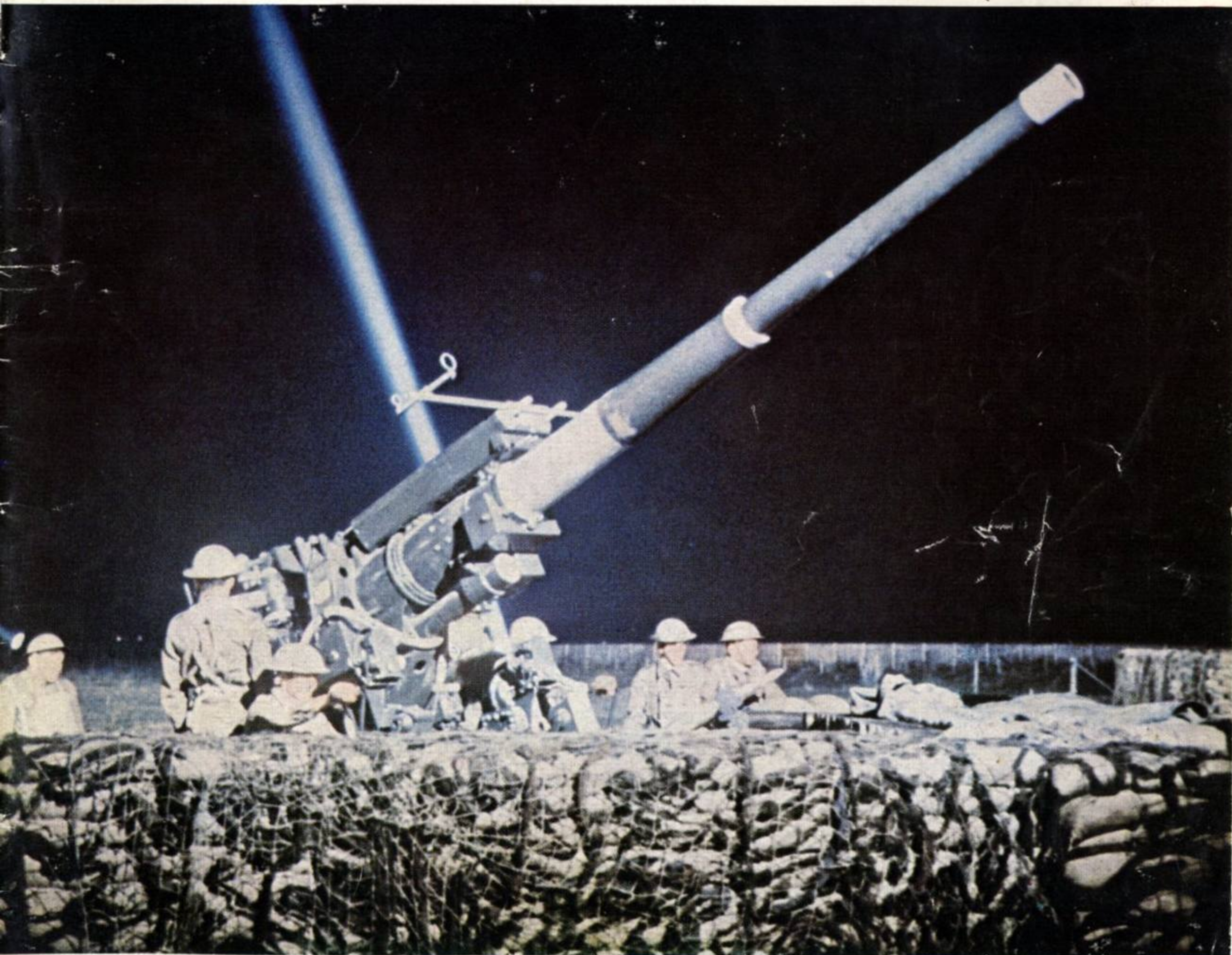
AIRFIX magazine

JUNE 1969

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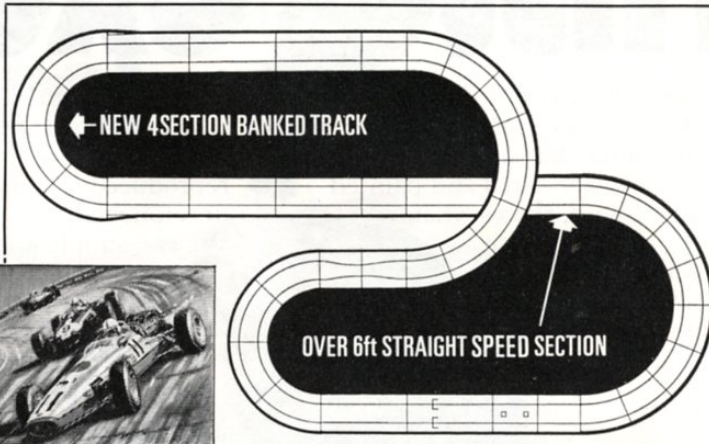
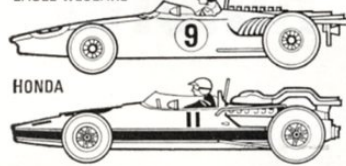
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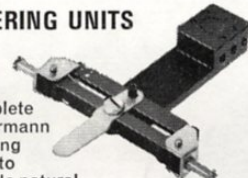
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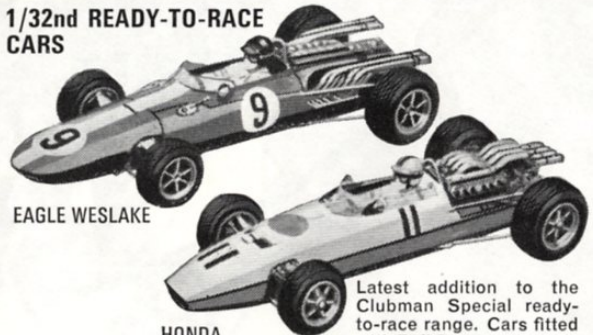
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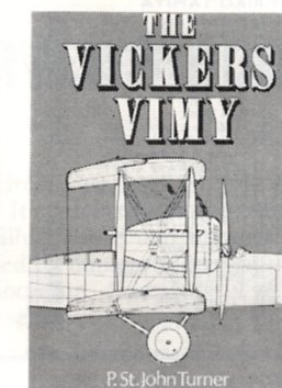
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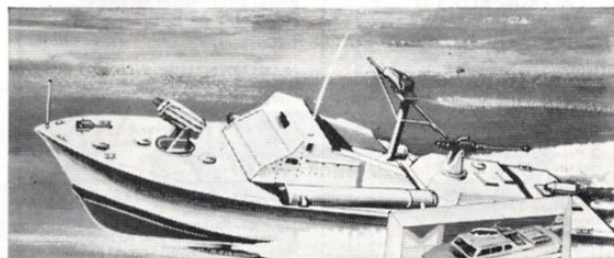
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FOR PLASTIC MODELLERS

June 1969

Volume 10 No 10

Editor Chris Ellis

Cover Picture

A familiar scene in Britain in World War 2 was the anti-aircraft gun site in orchard, park, or wood, guarding important centres and installations against air attack. AA Command consisted of no less than seven AA divisions in September 1939 and expanded by further divisions as the war progressed; the 'bow and arrow' formation sign of AA Command became one of the best known of the war on vehicles and uniforms. Busiest year for the AA gunners was 1940, when AA Command claimed to have shot down 444 enemy aircraft. For the forthcoming *Battle of Britain* film, the makers re-created at Pinewood Studios a gun site in Hyde Park complete with 3.7 inch AA gun and adjacent searchlight battery, all in authentic sandbag emplacements. Gun crew was provided by the Army from 17 Training Regiment, Royal Artillery, reviving the correct drill for the 3.7 inch gun and wearing period battledress and helmets. In this view can be seen the detachment sergeant, the ammunition supply numbers, and the layer and trainer (seated) 'following pointers' to set bearing and elevation from the predictor and height finder.

(Illustration courtesy The Battle of Britain film).

Next publication date :
June 27, 1969

Editorial Offices:

PSL Publications Ltd
9 Ely Place
London, EC1
Tel: 01-405 2297

Advertisement Offices:

Stanbury + Treadway Ltd
9 Ely Place
London, EC1
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Airfix magazine is published for the proprietors, Airfix Products Ltd, by PSL Publications Limited, on the fourth Friday of each month. Annual subscription rate 36s (USA \$5.50) from Surridge Dawson & Company (Productions) Ltd. Second Class postage paid at New York Post Office, N.Y.

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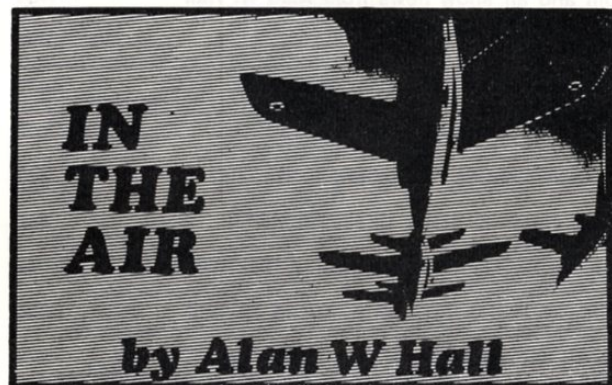
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I ATTENDED my first Royal Navy squadron commissioning last month which at the same time was the last fixed wing ceremony to be performed in the Navy. The occasion was the formation of the Navy's Phantom squadron, No 892 at RNAS Yeovilton.

It was a particularly sad event as although there are few officers or ratings still serving who can remember the days before the war when the RAF flew all aircraft from carriers, there are doubtless many who know all about the controversy that has waged for nearly 50 years as to whether the Navy should have its own aircraft.

As we all know, the Fleet will not be giving up helicopters for Commando and anti-submarine work, but without a strike and fighter element attached to the Navy they can hardly be blamed for being a little upset about the whole affair.

No 892 Squadron has had a noteworthy career as it first formed at Norfolk Navy Yard, Virginia, in July 1942 with Grumman Wildcat fighters and operated in defence of Atlantic convoys. In 1945 it received Hellcats and embarked on HMS



Ocean to spend the rest of the war at sea before being disbanded in April 1946.

Nine years later No 892 re-commissioned equipped with Sea Venoms. The following year saw it take part in the Suez operation prior to disbanding again in 1957. When the Sea Vixen entered service with the Fleet Air Arm in 1958 No 700Y Intensive Flying Trials Unit was formed to evaluate the aircraft. This unit became No 892 Squadron in July 1959 and embarked on HMS *Ark Royal*. It later served in the carriers *Victorious* and *Hermes*. After having re-equipped with Mk 2 Sea Vixens and spending some time on HMS *Hermes* during the Indonesian confrontation, Radfan operations and the Dar-es-Salaam crisis, No 892 returned to the UK and Yeovilton where it formed the Navy's air display team which became known as 'Simon's Circus'. The squadron disbanded in October 1968 only to reform last month as the first and last operational Phantom squadron in the Fleet Air Arm. The squadron will embark in HMS *Ark Royal* next year.

During the day at Yeovilton members of the Press had a ring-side seat for a rather spectacular 'prang'. One of the Sea Venoms operated by Airwork at the station had undercarriage trouble

Below: One of No 892 Squadron Royal Navy Phantoms on commissioning at RNAS Yeovilton at the beginning of April. This aircraft is XT861. Note the Omega squadron badge on the tail unit signifying that 892 is the last fixed wing squadron to commission in the Fleet Air Arm.



Top: Danish helicopters; No 722 Squadron operate this Sikorsky S-61A. These helicopters are based at Vaerlose but detachments are kept at two other Danish mainland airfields and in Greenland. **Above:** Alouette III M-019 one of eight aircraft flown by navy personnel in No 722 Squadron but maintained by air force technicians. Several of these aircraft are used on Danish fishery protection vessels.

and did a partly wheels up landing on a foam carpet spread by the very efficient fire service and also used the spray arrester gear which has proved so effective at RNAS airfields. The aircraft, WW207, was brought down very gracefully indeed and only succeeded in breaking off the rear half of one of the drop tanks. Whether there was any more major damage to the airframe was of course impossible to say at that time but everyone admired the skill with which the pilot brought his aircraft into land without, so it appeared, damaging the paintwork.

I also had the chance to renew my acquaintance with the Fleet Air Arm museum at Yeovilton. This is a worthwhile trip if you are on your way to holiday in Devon or even if you want a run from London for the day. The museum now has three aircraft parked outside the hangar as space is somewhat restricted. Their Wyvern, one of the Buccaneer development aircraft and a Sea Prince now adorn the edge of the main road which should be an added attraction to those passing.

News from Denmark

IN response to a number of requests for information on the Royal Danish Air Force following my all too brief mention of a visit I paid to Vaerlose airfield near Copenhagen late last summer I am repeating the dose. The photographs on this page give an idea of the types of aircraft at the RDNanAF transport base but the most important news this month is that Denmark is progressively changing the camouflage schemes of all of its military aircraft as they come up for major overhaul.

The new scheme will be an overall dark green. A number of the Hunter and F-104 aircraft have already been painted, some of the transport aircraft such as the C-47 in the photograph have also had the new scheme applied and when the SAAB J-35 Draken comes into service it too will have the green overall paint job. In most cases the national markings will be smaller than hitherto; for the Draken the fuselage diameter of the roundel will be 250 mm and the wing 350 mm. Individual codes and numerals where applicable will be in black and the two pointed flag will be retained on the fin of all Danish aircraft. Dayglo patches on transport aircraft and trainers will be retained in roughly the same positions.

AIRFIX magazine

Summer air shows

EVERY year I get requests for a list of air shows due to take place during the summer months. Often a comprehensive guide is difficult to produce as it takes a lot of time to compile and mistakes can often creep in. This year however I have had assistance from the Merseyside Society of Aviation Enthusiasts who have done their own list from which I have taken a great many items. No guarantee can be given that all the information here is absolutely correct. There is a lot of time between now and the end of the season and organisers are free to change their minds on dates and programmes.

| Date | Place | Event |
|--------------|---------------------------------|--|
| June 1 | Seething | Waveney Flying Group Air Rally |
| June 7 | Fleetlands | Open Day |
| June 7 | Chester | Hawker Siddeley Aviation Families day (11.00-12.00 factory open to visitors) |
| June 7 & 8 | Paris (Le Bourget) | International air show—public days |
| June 8 | Teesside | Annual fly-in |
| June 9-14 | Thorney Island | Air Rescue helicopter (Flying display and exhibition June 11) |
| June 9-10 | Heathrow | Lockheed C-5 visit |
| June 14 | Upper Heyford | Armed Forces Day |
| June 21-22 | Sywell | DH Aerobatic Trophy |
| June 27-28 | Rochester | Kings Cup air races |
| June 28 | Woodford | Air display |
| June 28-29 | Turnhouse | International Scottish rally |
| June 29 | Old Warden | Private and sporting aircraft between the wars |
| July 5 | Hatfield | Open Day |
| July 12 | Alconbury | Armed Forces Day |
| July 19 | Booker | Air display |
| July 19 | Little Rissington | University Air Squadron Trophy competition |
| July 19 | Lossiemouth | Air Day |
| July 26 | Middle Wallop | Army Air Corps Open Day |
| July 26 | Brawdy | Navy Air Days |
| July 26 | Arbroath | |
| July 24-27 | Lee-on-Solent | Business and light aircraft show |
| July 27 | Cranfield | |
| July 27 | Old Warden | Vintage military aircraft flying |
| July 25-27 | Newtownards | International air rally |
| August 3 | Teesside | International air rally |
| August 9-10 | Portland | Navy Days |
| August 10 | Shoreham | Air display |
| August 16 | Tollerton | Air display and races |
| August 16-17 | Elstree | Fly-in |
| August 31 | Old Warden | Vintage aircraft flying |
| September 1 | Halfpenny Green | Goodyear Trophy races and display |
| September 6 | Lydd | Flying Display |
| September 13 | Yeovilton | Air Day |
| September 13 | Battle of Britain air displays. | Stations yet to be announced but include Benson and Finningley |
| September 20 | Biggin Hill | Battle of Britain display |
| September 20 | Shobden | Strongbow air race and display |
| September 27 | Prestwick | RAFA Scottish air show |
| September 27 | Rochester | Esso Tiger Club aerobatics |
| September 28 | Old Warden | Vintage aircraft display |

Below: The new terminal building at London airport. This picture shows in the distance some of the BEA *Vanguards*, *Comets* and a lone *Viscount* at the domestic stands which reach out from the finger connected to the main terminal area. 7,000 passengers a day are handled through the terminal at the present time though it is expected that this will increase rapidly over the next few years.



Top to bottom: New and old styles of camouflage on Royal Danish Air Force aircraft are depicted in these two shots of C-47 Dakotas at present in service with No 721 Sqn. Note overall dark green paint scheme, smaller national insignia and black codes compared with the grey and green painted aircraft which visited Northolt some two years ago. (Lower photo: Jacob Stoppel). One of four C-54 Skymaster transport aircraft used for long haul and VIP operations by 721 Squadron. The nose radar in these aircraft is slightly different from standard and is in fact interchangeable with that on the Catalinas shown in this month's conversion article. Painted silver overall with dayglo nose and tail areas the Chipmunk is one of 27 purchased for initial and continuation training in 1950. Former fighters; an F-86D and a Thunderjet parked on a deserted part of Vaerlose airfield. These types are no longer in service.

New air terminal

SPOTTERS on the roof gardens at London's Heathrow airport will tell you that since the new No 1 Terminal building has been opened for BEA traffic there has not been much chance to see all that is going on in that area in the same way as restrictions on viewing came with the introduction of the long haul building several years ago.

Opened by the Queen on April 14 the £11 million building which will house BEA's services, those of Autair, BKS, Cambrian and Aer Lingus, will provide considerably more space for other continental services elsewhere on the airport. The growth of Heathrow in recent years is summed up by the fact that passenger traffic is expected to more than double in the next four years to a total of 23 million by 1973.

The new No 1 building is on the immediate left as the passenger terminal building is seen from the air.
Continued on page 445

NEW BOOKS

REVIEWED FOR MODELLERS

'14-'18 Fighters

WARPLANES OF THE FIRST WORLD WAR: *Volume 2, Fighters*, by J. M. Bruce. Published by Macdonald & Co Ltd, 49-50 Poland Street, London W1. Price 15s.

SECOND of a new series of books uniform with the popular books on World War 2 aircraft by William Green, this volume is similar in its small (pocket) size and presentation, complete with scale drawings, an abundance of rare pictures, and a concise and authoritative text by J. M. Bruce, one of the leading specialists in this period of aviation history. The first volume, published in 1967, started to work through British 1914-18 fighters alphabetically and this second volume deals with types from the Robey-Peters Scouts to the Sopwith Camel. Each maker's aircraft are covered chronologically, so that all Sopwith types prior to the Camel are included in the present volume. A further volume is promised which will cover the remaining fighter types. Keen aviation enthusiasts interested in 1914-18 types should snap up the whole series. For the amount of information and good illustrations packed into each volume, they offer fine value for money and are almost indispensable reference books.

Desert air war

FIGHTERS OVER THE DESERT, by Christopher Shores and Hans Ring. Published by Neville Spearman Ltd, 112 Whitfield Street, London W1. Prices 75s.

THIS is something out of the usual run of aviation books in that it takes the form of what is virtually a day-to-day diary of air operations for the entire period of the war in the Western Desert from June 1940 to December 1942, taking in its stride, of course, all the great campaigns like Wavell's Libyan Offensive, 'Crusader', 'Battleaxe' and Alamein. It is an immense work, more than 250 pages of closely packed text and more than 70 pages of superb pictures, many of them rare and previously unpublished. Every day on which there was any significant aerial activity is faithfully recorded and logged in great detail and the two authors, one British and one German, have ensured that each side in the air fighting has faithful representation. In addition to the narrative there are eleven appendices giving data on aircraft types engaged, 'ace' pilots, decorations awarded, and orders of battle. There is also a most interesting final chapter drawing conclusions on air fighting in the conditions of the desert war and impressions recorded by several famous pilots of that era.

In short a splendid piece of work which must have involved tremendous research on the part of the authors. Not least it does a great service for the historian by relating air activity to the fighting on the ground—most histories of the desert war concentrate on the purely military aspect with relatively little emphasis on the importance of the air component. The one small criticism we make concerns the rather poor map of the Western Desert which should, we think, be rather better drawn in a book of this importance.

US Navy planes

UNITED STATES NAVY AIRCRAFT SINCE 1911, by Gordon Swanborough and Peter M. Bowers. Published by Putnam & Co Ltd, 9 Bow Street, Covent Garden, London WC2. Price 84s.

THE fact that this is another volume in the authoritative Putnam aeronautical series will be sufficient to commend this valuable reference book to most aviation enthusiasts. It is uniform with the other books in the series, like *Aircraft of the RAF* and is presented in exactly the same style with scale drawings, lots of top quality pictures, and detailed text, each type being covered in chronological order by manufacturer. Very minor types are dealt with in a separate appendix with a picture and long caption, while further appendices cover gliders and blimps. There are more than 500 pages in what

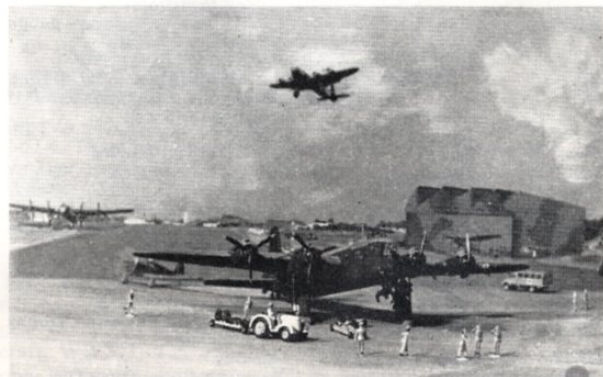
must surely be the standard book on US Navy types. Very readable, very informative, and invaluable to aircraft modellers and anyone with a general interest in the subject. It's worth every penny of the asking price.

Aircraft booklets

KOOKABURRA TECHNICAL PUBLICATIONS. *Titles in text.* Available from BMW Models Ltd, 327-329 Haydons Road, London SW19. Price 8s 6d each.

SUPPLIES are now again available of the Kookaburra Technical Publications. Titles currently available from BMW Models include *Lockheed P-38 Lightning*, *Messerschmitt Me 262* and *Markings of the Aces: Part 1 8th US Air Force*. In 25 pages the *Lightning* story is told in pictures—some uncommon—drawings, and text. General arrangement drawings of various versions of the P-38 in a variety of markings appear. It is well produced and useful as a guide for modellers.

The *Messerschmitt 262* in the same series is less well illustrated. There is quite a good assortment of photographs, but the drawings



Above: Reader J. Watterson of London W10 sent us this most effective airfield scene featuring Airfix Stirlings on dispersal, with ground crew modified from Airfix and Merit OO size figures. Hangar, sky, and aircraft in flight are on a painted background.

are less well detailed than those in the P-38 story. This book is concerned with the operational story of the aircraft, and is subtitled 'Part 2'.

Probably the most interesting of this trio is that dealing with Aces of the 8th Air Force. Photographs and drawings backed up by text detail the markings of ten fighters flown by aces. Eight other aircraft are illustrated in a double spread of drawings. We found this to be the most interesting of the three booklets for it quickly brought back memories of the P-51s and P-47s seen in the war years. If you too can remember those days you will enjoy this booklet; if you cannot you can see what you missed.

LOCKHEED P-38 LIGHTNING—A PICTORIAL HISTORY.

Published by Historian Publishers and available from BMW Models Ltd. Price 28s 6d.

A SECOND booklet from BMW Models is entitled *Lockheed P-38 Lightning—A Pictorial History*. This 34 page paperback sells here for 28s 6d, and resembles a company brochure in its appearance, and is expensive. There are 86 half tones, some occupying whole pages. There are also 7 colour pictures and a page of colour profiles, none of which are accurate in tonal rendering. A small note recommends that the book be used in conjunction with the Kookaburra issue devoted to the P-38 which has different photographs (reviewed above). Some of the nose close-ups of British based P-38s are interesting and of high quality. We felt these to be the best feature of this volume.

Combat publications

AIR COMBAT 1939-1945, *Volume 1, No 6*. Published by Eagle Aviation Enterprises, PO Box 82, Rockaway, New Jersey 07866, USA. Price \$1.

THE current issue of *Air Combat* contains a great deal of useful photographic material for the model maker. An article by Gregory Moreira on the 463rd Heavy Bomb Group, USAAF, pro-

vides some excellent photographic records of Boeing B-17s in action over German targets. Elsewhere in the magazine an article entitled 'Air War Over Holland' has photographs of some of the 6,000 aircraft which were shot down over Holland during the war. It is evident from the photographs that the Germans removed much of the equipment which was useful from American and British aircraft which were shot down, for use possibly with KG-200 the Luftwaffe unit which specialised in flying captured aircraft.

The several issues of *Air Combat* that we have seen have each contained most useful photographs and information. Although an American publication it is possible to obtain it through Beaumont Aviation Literature, 11 Bath Street, London, EC1.

New from Aircam

CURTISS KITTYHAWK Mk I-IV. Published by Osprey Publications Ltd, PO Box 5, Canterbury, Kent. Price 21s.

THE sixth publication in the Aircam series by Osprey Publications covers the Kittyhawk and as usual provides the model maker with a comprehensive collection of photographs and colour side view drawings of four variants of the aircraft in RAF, SAAF, RAAF, RNZAF, RCAF and Netherlands East Indies Air Force service.

Any student of the war in the Middle East will be particularly interested in the illustrations as they cover a great many aircraft of No 112 Squadron whose codes GA are well known. Even more well known was the sharkmouth insignia which these aircraft sported. The book apart from providing many illustrations of this paint scheme also offers an explanation of how the marking originated

and how it became almost universally accepted for Kittyhawk aircraft.

Squadrons from other Commonwealth countries which flew Kittyhawks in the Far East war are not forgotten and there are a number of hitherto unpublished photographs obviously taken from albums of pilots who flew them against the Japanese. The 2,000 Kittyhawks sent to Russia are also described though little is known of any action in which they took part. One side view illustration is however given of an aircraft in Soviet Naval Air Service flown by Senior Lt Kuznetsov who ended the war with 36 victories. The Netherlands East Indies Air Force section is interesting because little has previously been known about these aircraft and their markings were not catalogued. Several side views and photographs are given of aircraft in No 120 Sqdn. NEIAF.

This is an interesting book and provides the reader with a comprehensive coverage of the subject. It is ideally suited for the model maker.

Luftwaffe pictures

DORA KURFÜRST UND ROTE 13, by Karl Ries. Available from BMW Models Ltd, 327-329 Haydons Road, London SW19. Price 50s.

WE have come to expect from Karl Ries unique photographs and excellent art work in all of his books about the Luftwaffe. A fourth volume of *Dora Kurfürst und rote 13* has now been published, unhappily the last in the series. This volume has 185 pages of eye

Continued on page 443

NEWS FROM AIRFIX

The world's greatest value in construction kits

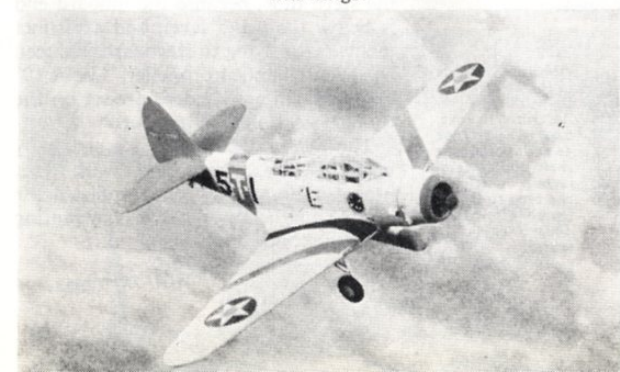
● Douglas Devastator

● Jaguar 420G

THE first all-metal plane to serve with the US Navy—the Douglas Devastator—is the subject of the latest Airfix aircraft kit release. Although obsolete at Pearl Harbour, the three-seater Devastator featured in most major sea battles in the Pacific including that at Midway in June 1942.

The Airfix 1:72 scale kit has 75 super-detailed parts including

Below: The Airfix Devastator finished in pre-war VT-5 markings.



Above: New Airfix Jaguar 420G kit comes complete with driver.

alternative main armament—a 21 inch torpedo and a heavy bomb. The model may be assembled with its undercarriage raised or lowered and wings folded for deck and hangar storage. The 0.5 inch flexibly mounted machine gun in the rear cockpit may be depressed and full canopy included, or, with gunner's canopy omitted, mounted ready for use.

Painting details and transfers for a Devastator of VT-8 Squadron—USS *Hornet*—and a more colourful version of VT-5 Squadron—USS *Yorktown*—are included in the kit.

Issued in the Airfix Aircraft Series 2, the kit is priced at 3s 9d.

WITH its race proved XK 4.2 engine to inspire keen motorists, the British Leyland Jaguar 420G is a 'natural' subject to appeal to kit enthusiasts and is a fitting subject for the newest Airfix car model.

The kit includes a fully detailed engine and exhaust system, all-round independent suspension, wrap round front and rear windows and transparent head and tail lamp lenses. It even has transparent trafficators.

The driver's arms are separate so that they may be mounted as desired to grip the steering wheel. The steering wheel is of true Jaguar pattern and stalks for overdrive and trafficators are featured on the steering column. All seats are fully detailed down to the small, inboard elbow-rests for the driver and front passenger.

Complete with painting instructions, two sets of stick-on registration plates and moulded radiator and boot motifs, the kit of 114 parts is issued in the Airfix Modern Cars—Series 3 range. Price, 5s 6d.

AT first sight the new Airfix *Queen Elizabeth 2* seemed to be an ideal basis for a motorised working model. In fact there are a good many modifications to be made, but the result is very rewarding.

My first idea was a twin screw set-up, preferably using the original propellers, but it soon became obvious that the hull had far less displacement than I had hoped. This meant that the machinery, whether two motors or one motor and gearing, would have to be so small as to require incredibly accurate alignment. Where a tenth of a millimetre could quite literally make all the difference I would be lucky to get any power at all to the props, let alone equal power port and starboard. It would make a fascinating problem in miniature engineering, however, for someone with more skill.

The machinery used in large tankers provided the next idea: one large propeller driven by fairly simple engines; crude, but very effective. Accordingly the two halves of the hull were assembled and the after extension of the keel was cut and drilled to take a propeller tube (see photograph and diagram).

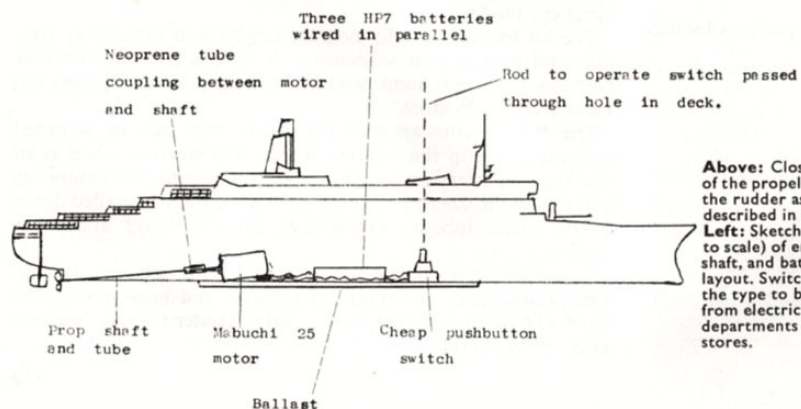
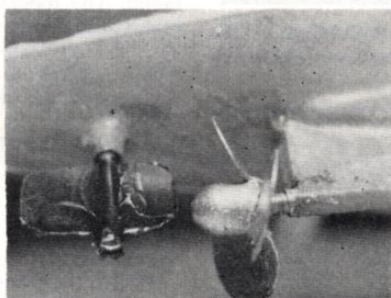
A Mabuchi 25 motor is used to drive this assembly. The motor was raised an eighth of an inch at the front with packing of scrap plastic to give a straight drive line and when the alignment had been checked everything was secured with impact adhesive which is advisable for all joints below the waterline. Three HP7 batteries wired in parallel provide power. A battery box was made of 40 thou plastic card about an inch forward of the motor (the exact position was found by floating the hull and shifting the batteries until a level trim was achieved). A switch was placed where it could be operated by a rod passed through the opening in the signal deck.

The new rudder came next. Cut from 20 thou plastic card, it was of about the same area as the one provided, but was a simpler shape, balanced according



to the formula of 'a third of the area before the pivot'. The pivot was copper wire bent slightly to make it a friction fit in a piece of brass tube let into the hull. Filler and sand paper finished off the alterations to the stern.

Some extra ballast was needed. In fact, in view of the model's comparatively shallow draught and high superstructure a waterline about 3 mm above the scribed water line must be accepted to ensure stability. This is not as bad as it sounds; because of the transparency of the water a model ballasted down to the scale waterline would appear to be riding high. The amount of ballast was ascertained by loading the bare hull, without any superstructure, until the lower scribed line was 1 mm clear of the water. This ballast was then attached to the outside of the hull; a pity, but necessary to give a good righting moment. I used lead ribbon, but the best method would be to cast the lead into a bar and attach this extra keel to



Above: Close view of the propeller and the rudder as described in text. Left: Sketch (not to scale) of engine shaft, and battery layout. Switch is of the type to be had from electricity departments of chain stores.

the hull with three bolts. Finally, before proceeding with the superstructure I packed both propeller and rudder tubes with grease and filled the hull, except for a well above the batteries, with expanded polystyrene.

The assembly of the superstructure followed instructions except that weight was saved wherever possible. This led to the disappearance of most of the sports deck. The area below the opening in the signal deck was filled by a square of 10 thou plastic card which was drilled to allow a thin rod access to the switch. Some 10 thou plastic card also replaced the funnel deck housing, part 29, which does not save much weight, but saves it where it matters, high up. The entire signal deck assembly was left removable for access. When in place it is quite firm because the fore end fits into the bridge while the signal sides grip the rest.

Painting also followed instructions, though the funnel deck housing was again an exception. Photographs of the ship seem to show the top of this to be the same colour as the signal deck, and in any case not white as stated. Because of the way the after decks overlap it is best to paint them before assembly. When the paintwork had had 24 hours to dry transfers were applied and the hull, superstructure sides and bridge were given a protective coat of polyurethane varnish.

The model sails well, though with those high sides she might well be unsafe on a gusty day. Her speed, especially with a new set of batteries, is perhaps excessive, but after all she is meant to be a fast liner. The only defects I have found so far are a very slight leak from the stern tube, because the inboard end is below the water level, and a distinct tendency to swing to starboard, induced by the left handed propeller. About 10° of port helm are needed, pre-set on the rudder, to straighten her out.

The *Queen Elizabeth 2* is a strikingly beautiful ship, especially with that funnel. This conversion completes the impression the model conveys by putting it in its proper setting.

AIRFIX magazine

ORDNANCE LOADS FOR MODERN BRITISH AIRCRAFT

By Richard E. Gardner

DURING the past few years there has been a quiet revolution in the carriage of aircraft weapons. New weapon release systems allow comparatively small aircraft to carry huge ordnance loads. The Hawker Harrier, for example, can carry a bomb load larger than that of some World War 2 'heavy' bombers!

With so many kits of modern aircraft coming on to the market it is worth looking into the possibilities of modelling these new weapon combinations. There is no doubt that carefully built miniature missiles, bombs and rocket pods can add greatly to the delicate final appearance of a model.

The photographs and drawings give a guide to some of the principal strike weapons now in use in Britain and other NATO countries. Whether the modeller wishes to improve the Airfix Phantom F4B, Skyhawk or Buccaneer (AIRFIX magazine, December 1968), or any other modern kit, the methods used will be the same.

1000 lb HE Bomb

Dark green with yellow or red/blue band on nose



Alternative: blue with rear part black (arrows)



750 lb Bomb

Green with yellow band

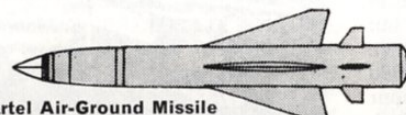
Bullpup 'A' Air-Ground Missile

Light blue or white



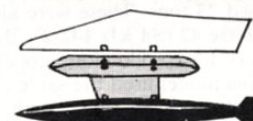
Martel Air-Ground Missile

Light blue or white (British version has jettisonable nose cap)



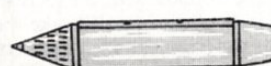
Key: (1) RN Phantom FG1 with (from left) drop tank, inner pylon with stores and fuel pod, and light blue Sparrow missiles recessed under fuselage. Two Sidewinders (light blue) and TER with two 2 inch rocket pods, plus one 500 lb retarded bomb (light blue) are on the inner pylon.

Triple Ejector Rack (TER) on typical pylon



1:72 Scale Drawings

1000 lb low drag GP bomb



2 inch rocket pod

Natural aluminium

End view of TER with three store items, one shown detached

Key: (2) British AJ168 Martel missile—an inert dummy in black with white bands—on its pylon beneath the wings of a RN Buccaneer S2. The pylon is dark grey. Nose cap of missile is removed in flight to reveal TV camera mounted in missile. (3) A close view of a 1000 lb retarded bomb with its parachute opened. (4) Three 1000 lb retarded GP bombs on a TER on a Phantom FGR2. They are pale blue with black rear sections.

The easiest source of miniature missiles, bombs and rockets is from the kits where alternative weapons are provided. After a while quite a large collection can be built up but it is sometimes advisable to replace overscale bomb fins with new ones cut from plastic card—using the originals as templates for size. If, as is likely, you cannot obtain enough weapons by this method of using spares from other kits, it is quite easy to make new bombs or missiles from dowel, or balsa, with plastic card fins. Some retarded bombs appear to have the forward edge of the fin slightly swept but most have straight leading fin edges.

Rocket pods will certainly have to be scratch-built from wood or plastic sprue. It is best to represent the nose caps of the pods by carefully painting or scribing the 'slits' on to a shaped, smooth surface. Spare sprue of the correct diameter is to be found in most of the larger kits and a realistic aluminium finish can be obtained by using aluminium Bako foil or Metalskin.

The breakthrough in weapon carriage has been brought about by the use of Triple (TER) and Multiple (MER) ejector racks (6,000 lb). These racks are fitted to strengthened pylons and enable large

Continued on page 460



Part 6: Conclusion

WITH the adoption of the long L/48 7.5 cm gun in place of the short 7.5 cm low velocity gun on StuG III models, there remained a limited requirement for howitzer-armed vehicles for the close support role. A proportion of production vehicles (about one in ten) were therefore turned out with 10.5 cm howitzers, these being designated as follows.

10.5 cm Sturmhaubitze 42 (Sd Kfz 142/2): This vehicle was identical to StuG III Ausf F but mounted the 10.5 cm le FH 18 (light field howitzer) adapted for use in the Sturmgeschuetz vehicles. Only a limited number were procured. They had a crew of 4 and weighed 23 tons. These were all built in 1942.

10.5 cm Sturmhaubitze 42 (Sd Kfz 142/2): Based on the StuG III Ausf G, this was the production model for the assault howitzer vehicles. This model used the same chassis and superstructure as the latest StuG 40, the length of the gun tube being the only exterior difference. The howitzer, a 10.5 cm StuH 42 L/28, when first issued was fitted with a muzzle brake in order to be able to use rounds with an increased charge, but on later models the fitting of the muzzle brake was discontinued. Some of these vehicles were equipped with the remote controlled machine gun, and many of them were fitted with armour skirting. The crew was 4 and the weight was 24 tons. Both 10.5 cm (36) and machine gun (600) rounds were carried. Some versions were fitted with a modified version of the Saukopf.

Munitionspanzer III (Muni Pz III): These were vehicles of the Sturmgeschuetz series with the main armament removed. They were adapted to carry ammunition in support of StuG III batteries.



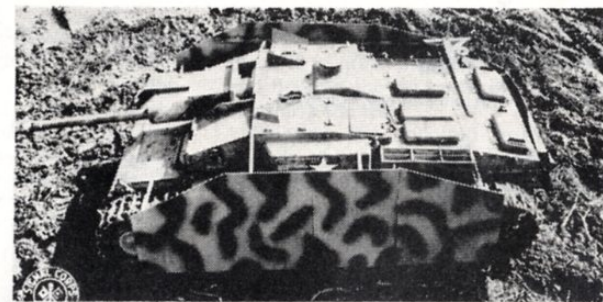
Late production 7.5 cm StuG 40 Ausf G with the distinctive Saukopf (Pig-Head) cast mantlet, as described last month. The Airfix StuG III model depicts this type (Imperial War Museum).

Development Vehicles

There were relatively few test vehicles or prototypes based on the Pz III chassis, mainly because efforts had been switched to Pz IV development and production at an early stage of the war. Two important—but still-born—designs are given here.

Panzerkampfwagen VK 2001 (DB) (Type ZW/40): Designed as a replacement for the Panzerkampfwagen III series, two prototypes were built and tested during 1939–1940 by Daimler-Benz AG. They were fitted with interleaved road wheels and armed with the 3.7 cm gun. The first prototype had a 3-4 speed transmission, the second prototype a Daimler-Benz clutch and brake steering gear box. Engine was the Daimler-Benz MB 803 12 cyl Diesel. They had a crew of 5, and the weight was 22 tons. This design dropped when Russian Campaign began, owing to the need to concentrate production and development facilities on existing proven designs.

Panzerkampfwagen III/IV: This was an attempt to project a standard tank based on the components of both the Panzer III and the Panzer IV, using a new suspension of the Famo type, similar to that used on the half-tracked tractors. Prototypes of this vehicle were built and were armed with the 5 cm L/42 gun, though a more powerful weapon the Waffe 0725 was planned for this vehicle, and would be used with a hydraulic traverse turret. Armour thickness was 50 mm overall and combat weight was 23.5 tons. Due to the development of more powerful Allied anti-tank weapons, an increase in armoured protection was considered necessary in new designs from 1942 onwards. The hybrid Pz III/IV was not capable of this and the project was therefore dropped.



Above, upper: Fine top view of a 7.5 cm StuG 40 Ausf F/8, a late production vehicle with added skirt armour and additional front armour. Note the machine gun shield folded flat on the roof. This vehicle is shown after capture by the Americans. Above: The 10.5 cm StuH 52 which was identical to the StuG III Ausf F except for the armament (Col Icks photos).

Armour Protection in the Panzer III

To give extra protection against armour piercing shot, various methods were used. With the model H extra 30 mm armour plates were bolted on to the basic 30 mm upper and lower nose plates during production but this complicated manufacture.



Above, top to bottom: Major production model of the 10.5 cm StuH 42 was based on the StuG III Ausf G but with the howitzer armament. The Pz Kw III/IV prototype was an attempt to produce a standardised vehicle combining Pz III and IV parts. Note the Famo suspension. Typical of the command tanks on the Pz Kw III chassis was the Pz Bef Wg III Ausf E (Col Icks photos). Right: The Pioneerpanzerwagen III was a turretless vehicle for carrying bridge components and other engineer equipment. For description, see April issue. (Warpics).

With the next model, the J, the basic armour of the front superstructure plate and gun mantlet was increased to 50 mm but this still failed to give effective protection against the increasing size and power of armour piercing shot. The next method resorted to was the use of spaced or supplementary armour, which was a clever way of increasing the armour

thickness without adding to the weight of the tank. With models J and L, 20 mm armour plates were fitted on brackets about 4½ inches to 6 inches in front of the front vertical superstructure plate and gun mantlet. The object of these supplementary plates was to take the first impact of the AP shot which would then shatter against the basic plate behind.

New models of the PzKw III series from Ausf L onwards were fitted with this device during production at the factory, but other models, ie, from E to J were sometimes similarly modified at base workshops. In 1943 it became the standard German practice to secure thin 5 mm plates by means of brackets on to the side superstructure and 8 mm plates around the side and rear of the turret. These plates were of mild steel boiler plating and were lightly secured either by spot welding or by hooks on rails and were to protect the basic armour against hollow charge projectiles. They were called *Schuerzen* (skirts) by the Germans.

Another German practice to increase protection was to drape the tank with spare lengths of track. One method of fixing these was by placing a steel bar across the nose front, welded at each end, with the track shoes lodged behind the steel bar and held in position by the 'bridge' of the shoes. To prevent the attachment of magnetic mines to tanks, they were sometimes coated with a substance called *Zimmerit*. This was spread on like a paste after which it hardened. This practice was discontinued in late 1944.

So ends the story of the Pz Kw III and its derivatives. As a tank, it was soon supplanted in service by the numerically more important Pz Kw IV but the Pz III family nonetheless played an important part in the story of the German panzer forces, particularly as the basis of the assault gun in which the layout and form of this type of vehicle was first perfected and then copied in later designs.



New Books — from page 439

catching hitherto unpublished photographs of many types of Luftwaffe aircraft from the years 1933–45. You can enjoy the sight of the Bv 238 and its model predecessor, of Bv 222s, Me 323s, Junkers transports, He 177s and even a He 111 Z towing a couple of Gotha 242s. In addition there are new pictures of less exotic types. Like all its predecessors this is a 'must' for anyone interested in aircraft of the 1939–45 war. If you have not bought any of this series, and indeed the other Karl Ries books, then you should consider doing so before it is too late. They will surely become collectors items.

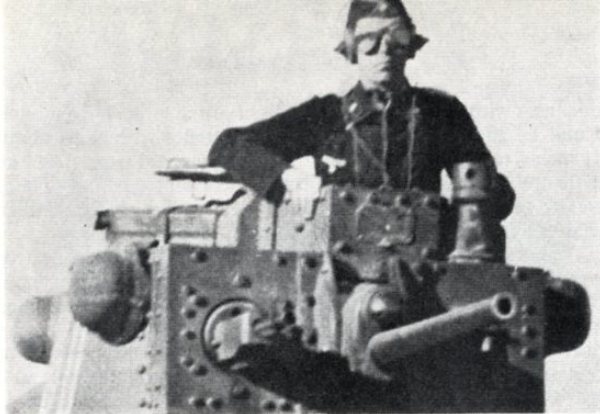
Vimy Story

VICKERS VIMY, by P. St. J. Turner. Published by Patrick Stephens Ltd, 9 Ely Place, London EC1. Price 30s (numbered collectors' edition 84s).

PUBLISHED mainly to commemorate the fiftieth anniversary of Alcock and Brown's epic non-stop flight over the Atlantic, this fact-packed volume is, in fact, a monograph on the complete Vimy series of aircraft, telling the story chronologically from the aircraft's

inception, taking in its service career and commercial derivatives, all the pioneering flights (including that of Alcock and Brown), and finishing with the story of the replica now being completed by the VAFA. There are more than 80 big pictures, some previously unpublished and all very rare, appendices which include specifications and serial numbers, and eight pages of scale drawings (by A. M. Alderson) to 1:72 and 1:144 scales of special value to modellers wishing to convert the Frog Vimy kit. In short a very well written, comprehensive study of a very famous aircraft.

LATEST release in the new Profile AFV series, No 3, deals with the Tanks Mk I–V of World War I fame. Written by Peter Chamberlain and Chris Ellis, it includes colour paintings of a Mk I at Flers-Courcelette, a captured Mk IV in German markings, and a Mk V at the Battle of Albert, 1918. There is the usual selection of rare pictures. Priced at 5s, it is available by post from any of the hobby shops advertising in this magazine if unobtainable locally.



Part 1: Army Tank Crews, Europe & Russia

THERE are many tank modellers who for some reason feel that to add crew figures to their creations is to cheapen them in some way. Personally, we feel that skilfully prepared crewmen add a great deal to the attraction of the smaller scale military vehicle model; and the growing interest in dioramas and scenic modelling has led to a demand for purpose-designed sets of figures of many types. Even those who display their models in splendid isolation on a shelf admit that figures give a useful indication of scale in any wide range of vehicle models. While they wait for purpose-designed figures, however, there is a good deal that modellers can do for themselves with patience, a sharp knife, and a good sable brush.

In setting out to prepare German tank crew figures, the modeller must accept the limitations of scale. However expert the carving and painting, lines of piping are going to be too thick, and badges too large, for rigid accuracy; and the exact cut of uniforms is almost impossible to reproduce to scale. Nevertheless, attractive and realistic figures should be within the scope of most modellers.

The dramatic uniform of the Panzer troops in the Second World War was subject to many minor variations indicative of rank and unit, and now that first-class decals of Army and *Waffen-SS* tank markings are becoming available, these uniform details can be reproduced to tie in with the subject model.

The characteristic black uniform is illustrated (in line only, for clarity) in Fig e. The cross-over jacket and long loose trousers tucked into laced ankle-boots were the tank crewman's working dress, worn in the field by Panzer, Panzer-Reconnaissance and Panzer-Signals units. It was designed in the mid-1930's to combine comfort and practical convenience with a conscious element of military 'sex-appeal' to emphasise the elite nature of the tank arm. In combat it was worn as shown here, or in combination with a variety of protective suits and coveralls. The black colour hid the inevitable oil stains; but wartime references mention that the black-suited tank men could be located on leave trains by their mechanical stink!

The loose black beret covered a leather skull-protector; this combination headgear was worn in the Polish campaign of 1939 but had largely disappeared by the opening of the *blitzkrieg* in the West in May 1940. The badge worn on the beret comprised the standard Army-pattern eagle and swastika above an oak wreath containing the black/white/red national cockade. The eagle and wreath were either pressed in silver-grey alloy or woven in grey or white thread.

The edge of the broad collar was piped in the *waffenfarbe*, or branch of service identification colour, this piping extending into the lapel cut-out but not round the lower lapels. The *waffenfarbe* for all tank troops was a striking shade of pink, best described as deep rose with salmon undertones! The one exception was the 24th Pz Div, which wore golden yellow piping. Golden yellow was also the identification shade for Panzer-Reconnaissance units, including the armoured car companies of divisional reconnaissance battalions, while Panzer-Signals units wore lemon yellow. This collar piping was worn by all ranks, commissioned and non-commissioned.

The famous death's-head collar patches, identical on both lapels, were also worn by all ranks of Army tank units. These were rectangles of black cloth, edged with the *waffenfarbe*, bearing jawless skulls and crossbones in silver-grey metal. The shoulder straps were black, edged (underlaid) in the appropriate *waffenfarbe*. Non-commissioned ranks from *Unteroffizier* upwards were indicated by

German tank crew uniform

FIRST OF THREE ARTICLES
BY MARTIN & DICK WINDROW

distinctions in the form of wide silver braid edging and grey metal pips; the *waffenfarbe* always appeared round the extreme outside edge of these shoulder straps. Officers' shoulder straps were of the conventional German pattern, strips of silver braid underlaid with *waffenfarbe*, with rank distinctions in the form of yellow metal pips. Before the war, and for parade dress during the early part of the war, the regimental number was carried on the shoulder straps; woven in *waffenfarbe* for ranks up to *Unterfeldwebel*, and pressed in grey and yellow metal for senior NCOs and officers respectively.

Most buttons were concealed by the 'fly-front' of the jacket; those visible on the shoulders and the trouser pockets were grey metal. Junior NCOs wore chevrons in silver-grey thread on the upper left arm; Fig e illustrates an *Obergefreiter*.

The beret was replaced in 1940 by the black side-cap, as worn by the *Oberleutnant* in Fig a. There were several patterns which varied in small details of cut. Non-commissioned and commissioned ranks wore the same cap, which was distinguished for officers by the silver-grey piping round the crown and in the front arch of the flap; there was no piping of any sort on the cap worn by non-commissioned personnel. The woven eagle and swastika was worn high on the front, above the national cockade, which was enclosed by an inverted chevron of the appropriate *waffenfarbe*; this badge was identical for all ranks. In 1943 the black field-cap (or 'ski-cap') began to appear in Panzer units and was worn increasingly by all ranks as the war progressed. The piping for officers was applied in the same way as on the side-cap, and the badge was identical, but the chevron of *waffenfarbe* was not worn. Fig b illustrates an *Unteroffizier* wearing this style of cap.

Like all branches of the German Army, Panzer troops wore the woven eagle and swastika on the right breast; on the black uniform it was woven in white or silver-grey thread.

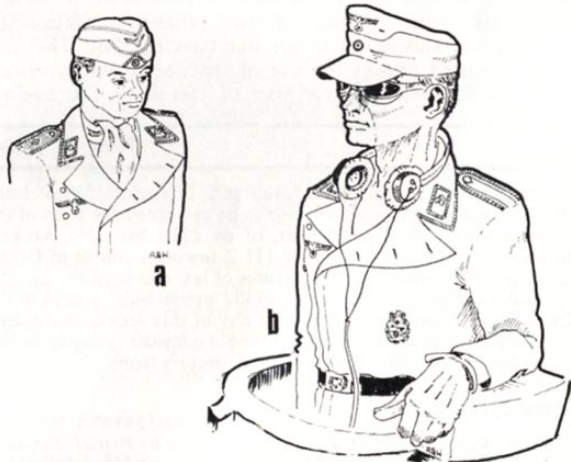


Fig a above: Oberleutnant of Army Panzer troops, 1940-45. Black uniform and side-cap; see text for details. Fig b right: Unteroffizier of Army Panzer troops, 1943-45. Black uniform and field-cap. See text for details. Panzer assault badge on left breast in silver-grey metal.

Suitable figures

In subsequent articles we will cover specialised uniforms (*Afrika Korps*, *Waffen-SS*, SP gun crews, etc) but the following hints may be helpful for those who wish to press on with the basic Army figures.

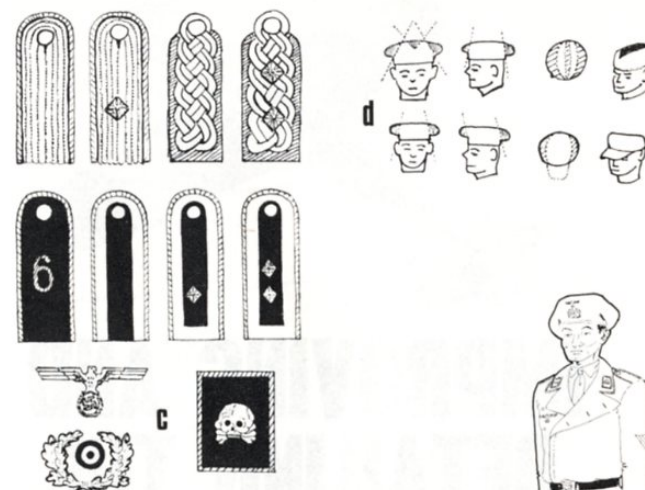
For the pre-war period and the Polish campaign, two useful Airfix figures are available for conversion. These are the British jeep driver and the RAF Aircraftman; the former is provided in the Airfix Buffalo kit, and three of the latter in the Bloodhound missile kit. Both are in positions which, after suitable amputation, look extremely realistic in any cupola; and the RAF figures can be used full-length in a variety of outside 'working' situations on tank models. Both these useful figures are moulded in hard polystyrene and thus are easy to work without risking the maddening 'furry' edges which bedevil modellers who try to trim the soapier plastic of the figures from OO scale sets.

The jeep driver's beret is small, but reasonably acceptable in this scale. Note, with both these figures, that the Panzer beret did not pull down on one side only like a conventional beret, but flopped irregularly on both sides and at the back. This feature should be built on with spots of Plasticine coated over with banana oil to harden it. The jeep driver's breast pockets should be removed with knife or file, but the open battledress collar is moulded so large that it should not be altered. It serves excellently as the upper lapel of the Panzer jacket; lower lapels may be added with tiny triangles of tissue-paper—not as hard as it sounds. A careful slicing with a sharp knife provides a good flat painting surface on the shoulders for shoulder strap detail. The shirt and tie are clearly moulded, and should be painted grey and black respectively—or obscured with another spot of Plasticine and painted as a scarf. Collar patches should be painted by applying a large blob of pink; shaping the outside and blanking out the inside with black; then adding a spot of silver-grey or white for the skull. Incidentally, don't use gloss silver paint for these uniform details; it reflects too much, especially on a matt black background, and loses its clarity of outline. A really matt silver is best, but white or pale grey are both quite effective.

The Aircraftman is not so well moulded, and details should be carefully sharpened up with a bit of cautious knife-work. Tunic details are best left indistinct; after a couple of good coats of matt black and the addition of lower lapels in tissue paper, the pink edge of the collar can safely be painted wider than the actual moulding.

For tank crewmen with the later headwear, we suggest using the surrendering figure from the German World War I Infantry set. His arms may be removed and replaced in a variety of 'pointing' or 'waving on' positions. If you wish to show the full-length figure, he can be effectively positioned beckoning on a vehicle in a narrow lane or rough terrain. The jacket has no breast pockets to worry about, but the collar is frankly unrealistic. It should be painted as tightly closed, with only the left lower lapel (tissue paper again) showing. Do not attempt to 'open' the top of the collar; the moulded collar is at least flat, and the death's head patches require as good a painting surface as you can get. Trim the skirt of the jacket short, to a point about half-way between the moulded length and the belt. Slice or fill the existing front join of the jacket, and scribe a new one slightly on the right with a sharp knife. Slice off the lower pocket flaps. The baggy trousers may be reproduced by trimming the ankles thinner; adding small spots of Plasticine half-way up the boots; and smoothing them into the line of the trousers with a knife-point. When straining your eyes and your temper over these modifications, remember that matt black paint covers a multitude of sins!

The peakless forage cap on this figure can be carved into a side-cap or field-cap without much difficulty; especially as Panzer side-caps were often worn pulled down rather square and tight on the head. Carve away the edges of the crown at a sharp inward angle, leaving a good wide ridge down the middle and being careful not to reduce the overall height of the cap. Notch the ridge with a V-cut; and finally cut off the small central knob of the original crown which should remain in the front. This will provide a tiny but useful flat plane for badge painting purposes. The peaked field-cap is simpler; carve away the overhanging lip of the crown at a much more vertical angle, leaving a good oval crown. The rear of the cap should slope inwards slightly at the top; the front should be left with a good overhang, so don't remove the front lip completely, just shave the



Above: (c) Shoulder straps, left to right: (Top row) *Leutnant*, *Oberleutnant*, *Major*, *Oberst*. (Bottom) *Private* (1939), *Unteroffizier*, *Feldwebel*, *Oberfeldwebel*. Breast badge, Beret badge, Panzer collar patch. All shaded piping indicates 'panzer pink'. (d) Steps in carving 1914 German forage cap into (top row) Panzer side-cap, and (bottom) field-cap. (e) *Obergefreiter* of Army Panzer troops, September 1939. Black tunic, trousers and beret; grey shirt, black tie; shaded piping represents 'panzer pink'; badges, chevrons in white or silver-grey thread. See text for details.

front of it flat to make painting easier. The peak can be added out of paper.

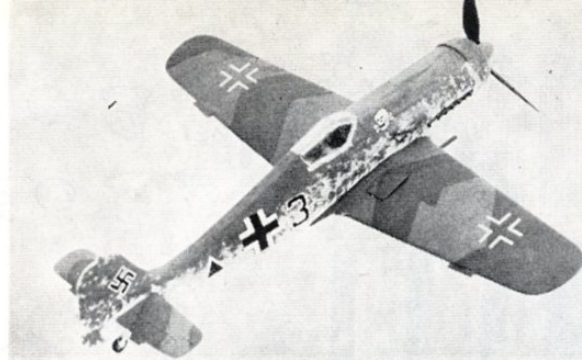
Ambitious modellers can add greater realism by making radio head-sets out of a short curve of fuse-wire and two good-sized blobs of glue on the ears, with a thin thread yoke disappearing down into the cupola; goggles, on the cap or round the neck, can be made out of paper. These are details which are best omitted, however, in 1:76 scale unless you are reasonably experienced with this sort of figure conversion work. Crudely added earphones could ruin an otherwise competently modified and painted figure. This, incidentally, illustrates a golden rule for these OO size figures—it is better to omit detail altogether than to attempt what you cannot competently achieve. In other words, if you can't paint reasonably fine lines, don't bother with the piping and badges, etc. Their absence is much less noticeable than piping a scale 3 inches wide!

In the Air — from page 437

ger arrives at the airport through the half-mile long tunnel under No 1 runway. It has a two-level operation in which arrival and departure passengers are kept separate. After leaving the tunnel a road leads up to the first floor departures level of the building. Passengers enter the large roomy area by automatic doors and are immediately faced by the check-in desks. Late arrivals can catch a flight up to ten minutes before departure and a special ramp takes their baggage direct to the airport staff working on the aircraft.

BEA's Tridents, Comets and Vikings go nose-in to the two fingers from the terminal building and passengers board the aircraft by way of a powered gangway.

There is a general air of spaciousness about the terminal. The design which was started in 1964 was completed late last year after work started on the construction in 1966. Connected to the terminal is a large car park ideal for business men wishing to do a day trip to Scotland or somewhere in Europe for a day and return in the evening. Airline coaches use the road underneath the building to pick up and set down passengers. Separate entrances for domestic and international passengers are provided. There are 12 aircraft stands on the international finger.



IMPROVING AND DETAILING THE AIRFIX FW 190

By Bryan Philpott

THE Focke-Wulf Fw 190 made its debut in aerial combat with JG 26 in July 1941, and immediately established superiority over the Spitfire V which, at that time was the standard equipment of RAF Fighter Command. This neat radial-engined fighter—which many consider to be the most successful Luftwaffe fighter—was to cause the Allies severe problems and it was nearly two years before British fighters with a comparative performance were able to meet it on equal terms. There is no doubt that the Fw 190 was a superb aircraft, and it is strange therefore, that there is no really accurate 1:72 scale version available to collectors of aircraft of this period. Several companies have issued kits of various marks of the Fw 190, but they all leave a lot to be desired in terms of outline shape and detail.

One of the earlier Airfix kits depicts the Jumo engined long-nosed versions of this fighter known as the Fw 190D-13. With a few modifications and attention to detail, this can be converted into a reasonably accurate replica of the aircraft the original kit is meant to represent.

Without a considerable amount of work however, it is not possible to convert the Airfix model to one of the earlier BMW powered short-nosed versions though Frog and Revell make models of these in any case.

The modifications described here for the Airfix kit come within the scope of the beginner, therefore this makes an ideal model on which to practice something a little more advanced than straight forward kit assembly.

Fig 1 shows the fuselage outline as it comes in the kit, and Fig 2 depicts the outline as it should be. It will be seen that considerable modifications are required to be carried out on this component.

The first step is to cement the two fuselage halves together and allow them to dry thoroughly. Next, cut away the fin and rudder where shown on Fig 1. The rear fuselage must be reduced in thickness by filing and carving the plastic carefully away with a craft knife. This will mean rebuilding to the correct profile with sprue and body putty. The putty is filed and sanded smooth when fully set. Although most Fw 190D-13s had a bubble type canopy, some of the early versions used the flat type as provided, so if you do not want to mould a new hood, the kit part, reduced by 1/8 inch in length, can be used. The resulting gap behind the canopy and fuselage should be filled with body putty and shaped to the fuselage contours. The air-intake on the starboard side must be repositioned and this should be 3/4 inch from the nose (without the cowling fitted) to the front of the intake. At this stage it is wise to leave the whole assembly to dry thoroughly before sanding it to the correct shape.

The kit exhausts are completely inaccurate and should be removed by cutting or sawing. They can be replaced by new units made from scrap plastic which should have the pipes grouped in a 2-3-1 sequence

from the front as shown in Fig 6. Make a new fin and rudder as shown in Fig 3, cut from thick plastic card and filed and sanded to aerofoil section, and cement this to the fuselage, fairing it into the fuselage with body putty.

Before proceeding further, give all parts of the fuselage a thorough going over with 'wet and dry' paper to eliminate blemishes particularly where body putty has been used.

The aerial post on the fin can either be included when the fin/rudder is made, or added from scrap later.

The modifications to the wings are simple, requiring only the removal of the gun blisters, which are not only in the wrong position, but also the wrong shape. Cut and file new blisters from plastic card and cement in position as shown in Fig 5. The kit tailplane is inaccurate and should be replaced by a new one made from balsa or plastic card to the pattern given in Fig 4. Don't forget to shape these to an aerofoil section!

Surface detail in this early Airfix kit, is rather crude, it is best therefore, to sand it all off and re-score panel and control surfaces, this will be necessary anyway with the new fin/rudder and tailplane assembly. Also, of course, most of the surface detail on the fuselage will disappear in the re-shaping process. Finally add trim tabs to control surfaces where shown by using thin plastic card or cartridge paper.

The spinner provided is incorrect in shape and should be replaced. You may have one in your scrapbox which will do with the necessary filing. Otherwise you could cut and sand one to shape from a ball pen top. The propeller blades need a little filing to get the more characteristic Fw 190 paddle-blade effect. Incidentally the spinners of the Revell Ju 88 are perfect for the Fw 190 model if you happen to have one spare. You can use it as a precise guide, at least.



The undercarriage is accurate enough not to be out of place, although the tailwheel oleo should be slightly shortened. Add the radio aerial from the kit under the port wing and make an IFF aerial and whip aerial from heat-stretched sprue, fitting these where shown in Fig 2. If your model is to have its undercarriage down, the step, also in Fig 2, should be added from wire.

A pitot head must be fitted to the starboard wing, and for this stretched sprue can again be used.

The single bomb provided can be added beneath the fuselage but most Fw 190D-13s carried eight SC50 bombs, two under each wing and four in two sets of two beneath the fuselage. My own model was left 'clean' simply from personal preference. The cockpit can be detailed by fitting a plastic card floor and seat together with a head-rest as shown in Fig 2.

Useful reference for this model Fw 190D can be found in Harleyford's excellent publication *The Focke-Wulf Fw 190*, William Green's *Famous Fighters Vol 1* and the IPMS Magazine for September 1968.

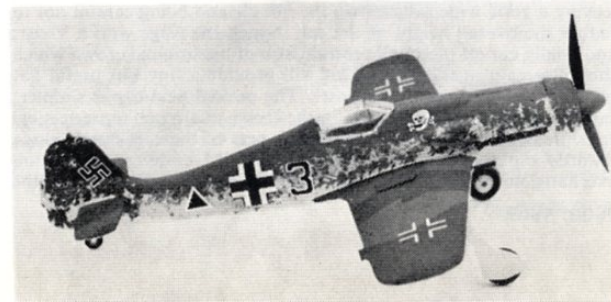
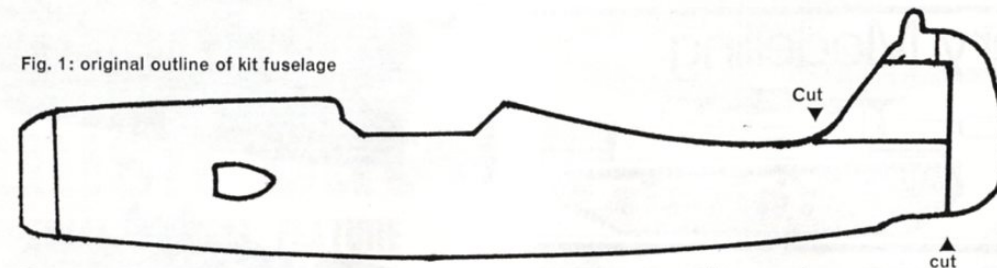
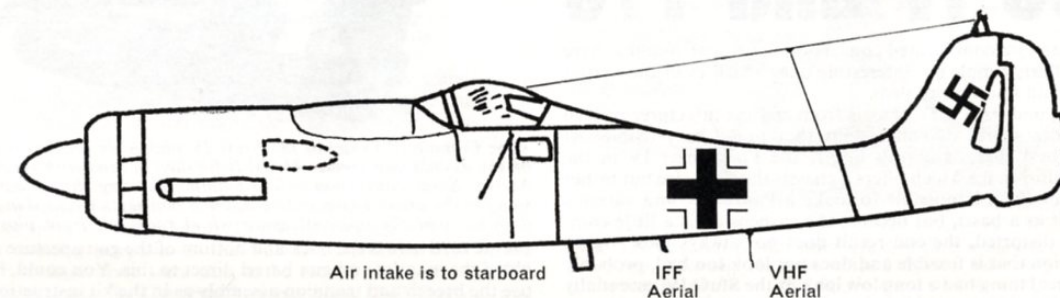


Fig. 1: original outline of kit fuselage



Remove and re-position air intake, see below

Reduce fuselage depth—see text



Air intake is to starboard

IFF Aerial VHF Aerial

New blister shape and position shown

Pitot tube on starboard wing only

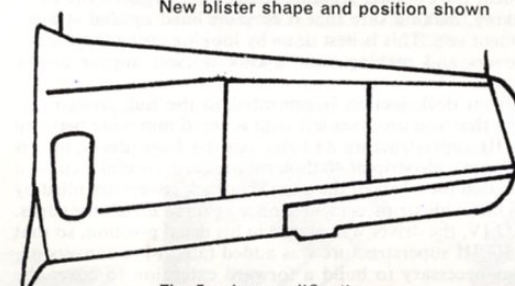


Fig. 5: wing modification

Drawings full-size for model



Fig. 4: template for new tailplane

Fig. 6: new exhaust

Left: Prototype picture shows a Fw 190D-9, preserved at the USAF Museum, very similar to the D-13 version modelled. Note spinner and cowling detail. (Photo via Leslie Hunt). The model illustrated is finished as an early 'flat canopied' Fw 190D-13 operating with JG 3 in March 1944. 'Death's Head' was personal emblem of pilot, an ex KG 54 man. Standard splinter camouflage uses Humbrol Luftwaffe colours.

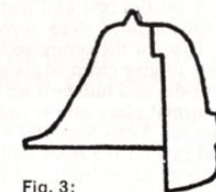


Fig. 3: template for fin and rudder

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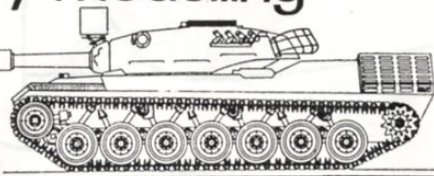
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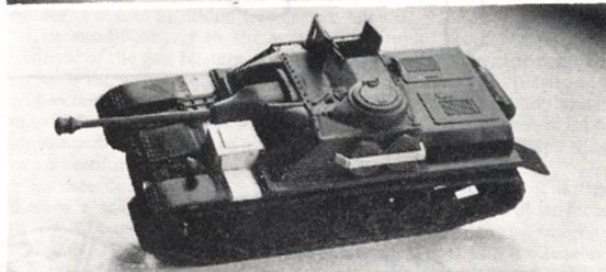
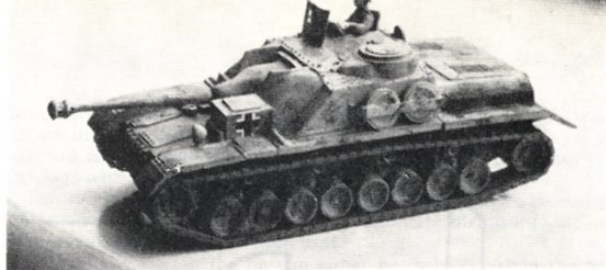
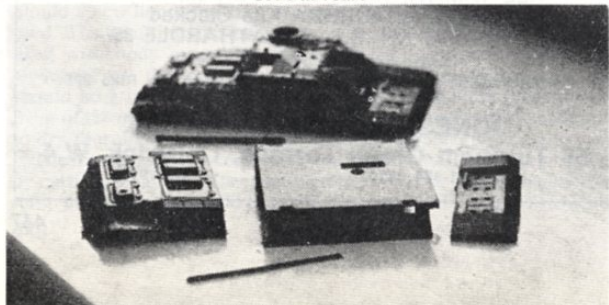
AFTER the more complicated conversions of recent months, here are two fairly simple but interesting ones which even the veriest beginner should find no problem.

Lack of a good Pz Kw IV chassis from any manufacturer in 1:76 scale precludes scores of conversions that would be possible. At present the best there is in this line is the Flakpanzer IV in the Japanese Midori range which offers a chassis the right size but rather poorly fashioned. It is possible to make a Panzer IV and variants using this kit as a basis, but because the suspension is a little compressed and distorted, the end result does not always look 'right'. One conversion that is feasible and does not look too bad, probably because the real thing had a long low look, is the StuG IV, essentially a StuG III gun and superstructure on a Panzer IV chassis. This can be modelled most effectively by combining the major parts of the Airfix StuG III assault gun kit with the chassis from the Midori Flakpanzer IV (available from BMW Models, Wimbledon). In fact, I used the parts from a faulty StuG III kit which I had had by me for some time and was otherwise unusable, so nothing was wasted. But even if you have to buy the two constituent kits to make this model, the spare parts left over will always be useful.

Start with the Flakpanzer IV and consign the quad AA gun to your spares box at once—where it can be used on the Sd Kfz 7/1 conversion described in the September 1967 issue—and discard the motor if you do not intend to use it. In this latter case, however, the motor apertures in the chassis sides must be filled with pieces of plastic card cut to fit, in order to prevent daylight showing right through the chassis. Now take the main hull top, turn it upside down, and saw off the rear and front decking with an X-Acto razor saw, using the moulded steps under (not above) the decking as a cutting guide. Discard the centre section, and then trim the two remaining cut ends to give clean edges across the cuts. Meanwhile cement the chassis sides and hull bottom together, then cement the rear decking in its normal place on the hull rear.

From the Airfix StuG III kit, take the hull top, keep it right way up, and saw off the front and rear decking immediately adjacent to the superstructure front and rear. Then discard these sawn off ends and place the remaining chunk of superstructure on the ex-Flakpanzer IV chassis hard up against the rear decking already in situ. You'll see that the track covers of the Airfix part are just too wide to make a clean match and it is necessary to reduce them to fit. This is very simply done by sawing a sliver off each edge of the track covers, using the row of rivets on each as the cutting guide. This will give you a precise match and after checking that all is well in this respect, sand or file the edge smooth. In my model, the gun is fixed in elevation so that I could keep the breech for other conversions. I cemented

Below: The parts to be discarded, namely the front and rear decking of the StuG III and the edges of the centre track covers, plus the superstructure of the Flakpanzer IV kit are shown here. StuG III hull top seen at rear.



Top: Completed model of the StuG IV makes an attractive variation on the assault gun theme. Model is finished in sand with green mottle. Above: Same conversion before painting showing the forward extension for the driver's compartment, the 6 mm section added in the front decking, and the optional spare wheel rack, all from plastic card. plastic card across the back and bottom of the gun aperture and then glued the mantlet and gun barrel direct to this. You could, however, use the breech and trunnion assembly as in the kit instructions. Now go on to cement the ex-StuG III superstructure up against the existing rear decking, making sure that it remains lined up and straight while the cement sets. This is best done by looking along the edge of the track covers and making sure a kink doesn't appear at the cemented join.

Next the front deck section is cemented to the hull front in its usual place so that you are then left with a gap 6 mm wide between the ex-StuG III superstructure and the existing front deck. This is filled with a 6 mm wide strip of 40 thou plastic card, carefully cut and trimmed to match the edges of the gap. The track covers are filled by two further 6 mm wide strips, cemented once again to match the edges.

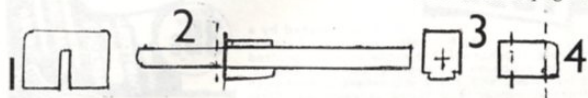
In the StuG IV, the driver was placed in his usual position, so that when the StuG III superstructure was added (a real-life conversion, in fact) it was necessary to build a forward extension to cover the driver. In model form use 20 thou plastic card and cut three 7 mm x 5 mm rectangles, cementing these forward of the existing StuG III driving position as shown in the pictures. Add a roof from 8 mm x 7 mm rectangle, the longer measurement being needed to meet the slope of the original superstructure. A 5 mm square hatch of plastic card goes centrally on the driver's roof. From the StuG III superstructure front, carefully trim the vision port and add this on the front of the new driving position.

All that remains is the detailing. Hatches, etc, come from the kit, and I disguised the ugly clip on the hull front by cementing the spare track shoes over it. The fuel tank from the Flakpanzer kit goes in its usual place at the rear, and I added a tow hook and spring on the rear securing clip, again to disguise it. Final additions—which are optional—were a headlamp on the hull front and a couple of spare wheels in a bracket (from Microstrip) on the superstructure side.

All in all this makes a good looking and unusual conversion, an interesting contrast to the StuG III. These vehicles were produced in 1944-45 using StuG III superstructures in order to utilise some Panzer IV chassis which had become available. StuG IVs supplemented the StuG IIIs and some units had a mixed complement of both types of vehicle.

The second conversion is even easier, this time providing a Sherman with T76 rocket launcher of which a few were produced in 1944

Continued on page 467



Above: Full-size drawings for T76 parts. (1) New mantlet plate, (2) new barrel on stub of 75 mm gun mount, (3) mounting plate on barrel, and (4) deflector shield for turret side aperture. Bend end at dotted line.

AIRFIX magazine

Modelling Danish 'Cats'

SPECIAL REQUEST FEATURE
BY ALAN W. HALL

SINCE writing two or three paragraphs last year about my visit to the Royal Danish Air Force, there have been many requests for additional information about these aircraft, the sole remaining Catalinas in air force service in Europe.

Denmark took delivery of eight surplus US Navy Catalinas in 1947. At that time they were intended for use in an aerial survey of Greenland which was started before the war, but so useful did they become that eight PBV-6As followed in 1957 and since then have given yeoman service in Greenland on air-sea-rescue duties, transport duties and communications.

Of the original 16 aircraft delivered only a few remain and these are mostly from the latter batch. Two PBV-5As are still in service, used for training purposes at the Vaerlose transport base of the RDanAF though these were due to be retired this year. No 721 Squadron operates the Catalinas and has eight C-47 Dakotas and five C-54 Skymasters apart from the Cats.

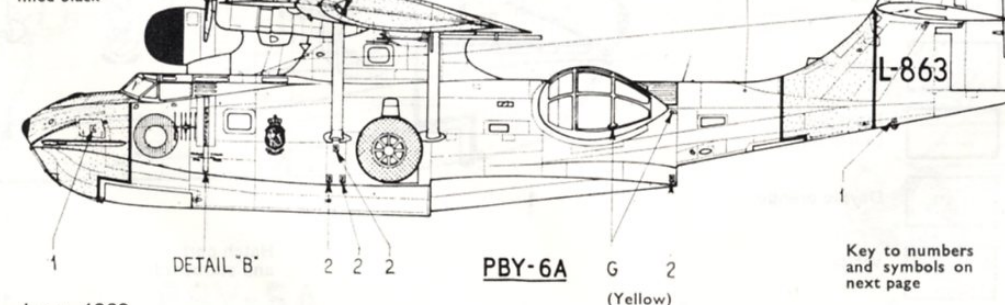
The Catalinas still flying are serialised L-861, '863, '866 and '868 of the PBV-6A batch and L-853 and 857 of the PBV-5As. Of the other PBV-6As, 862 and 864 were destroyed in a hangar fire and 865 crashed on a mountain. In March 1964, 867 was forced down through engine failure and although it landed in the sea it became trapped in the ice and was lost. All of the aircraft still in service have been re-skinned more than once. There are also many minor modifi-



Above: Three more useful detail views of L-868. Fuel dumping pipe under wing is clearly shown. This machine has a grey, rather than black, front to radome. Wheel hubs are silver.

1:144 Scale
For starboard side
(1:72), see next
page

Dayglo is yellow
shade; areas out-
lined black



June, 1969

Scale drawings next page
Modelling notes page 452



Golden crown,
red inside

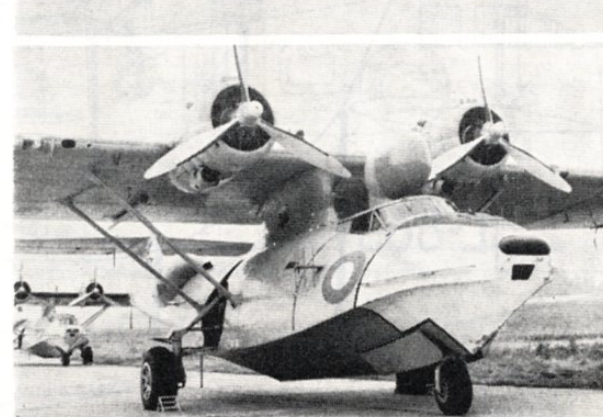
Black

Black and silver

Black on gold

Unofficial badge of
722 Sqn carried on
L-864

Key to numbers
and symbols on
next page



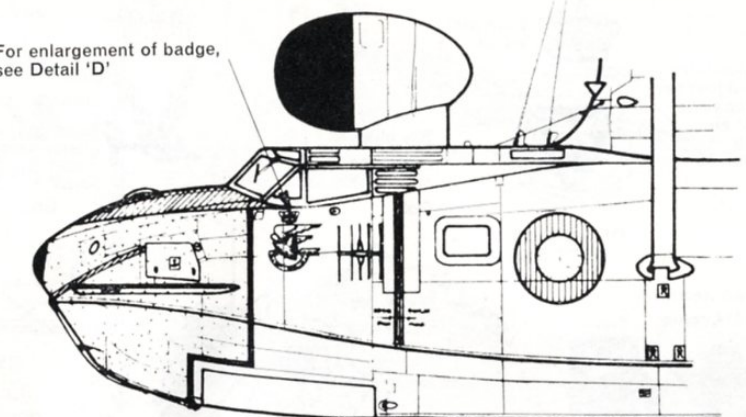
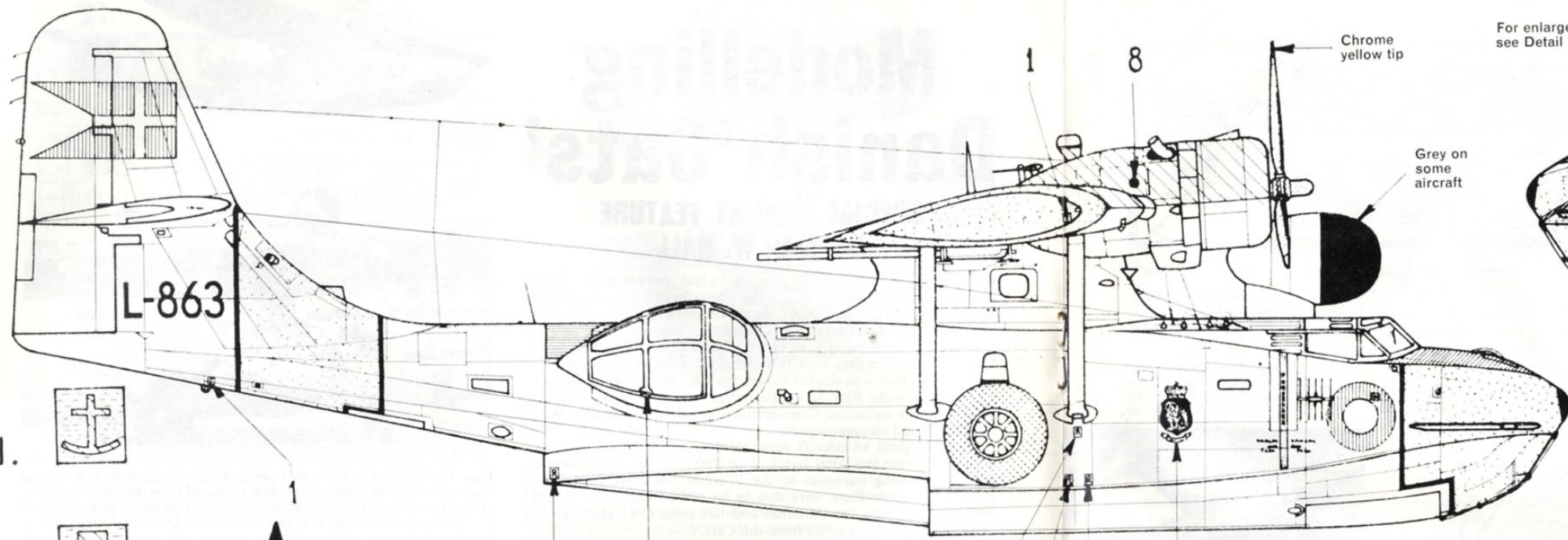
Top: The ill-fated L-865 which crashed into a mountain side several years ago. Note that the paint scheme differed from the present scheme by having no outline to the dayglo areas and no unit badge. Original pattern radome was also carried. Above: L-868 at Vaerlose.

cations which make them non-standard. For example the Danes have standardised on radar equipment and now the Cats have the same as the C-54s in the transport squadron. Engines became difficult to obtain as far as spares were concerned and the squadron's engineers utilised Dakota power plants which give the same horse power and as far as the modeller is concerned make slight modifications to the shape necessary, mainly by the additional air intake on top of the cowling. The turrets were removed from the nose of the aircraft long ago and a hatch replaces the original so that a crew member can work from there during mooring operations. The tear-drop canopies aft of the wing have remained as it is through these that all freight and passengers have access to the interior.

Converting the Airfix Catalina should present few difficulties to the fairly experienced modeller. Principal external differences include a revised fin and rudder, new nose, and radar scanner behind the cockpit. There are a number of small additions that need to be made and these include the re-shaping of the tailplane, intakes on the engines, radio aerials and a beacon position. Fuel dumping pipes are also needed under the wings.

Most of the Catalinas fly with the wing tip floats retracted. These are only used on water landings and are not extended for landings at airfields. The squadron badge will have to be hand painted.

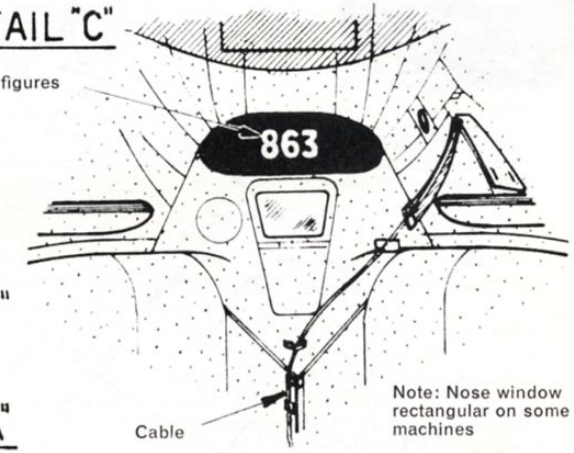
Colour Notes: For 'light grey' (beige) use Humbrol 'Granite' lightened with yellow, and with a touch of black. The 'Orange' (see key) is actually a dull crimson.



(Above: Alternative position for fuselage roundel)

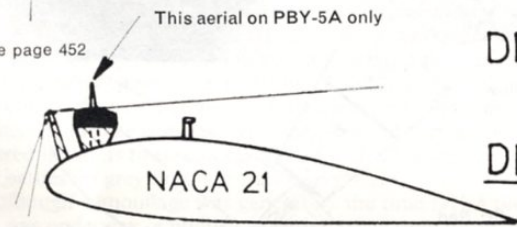
DETAIL "C"

White figures



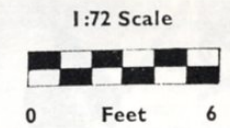
DETAIL "C"

DETAIL "A"

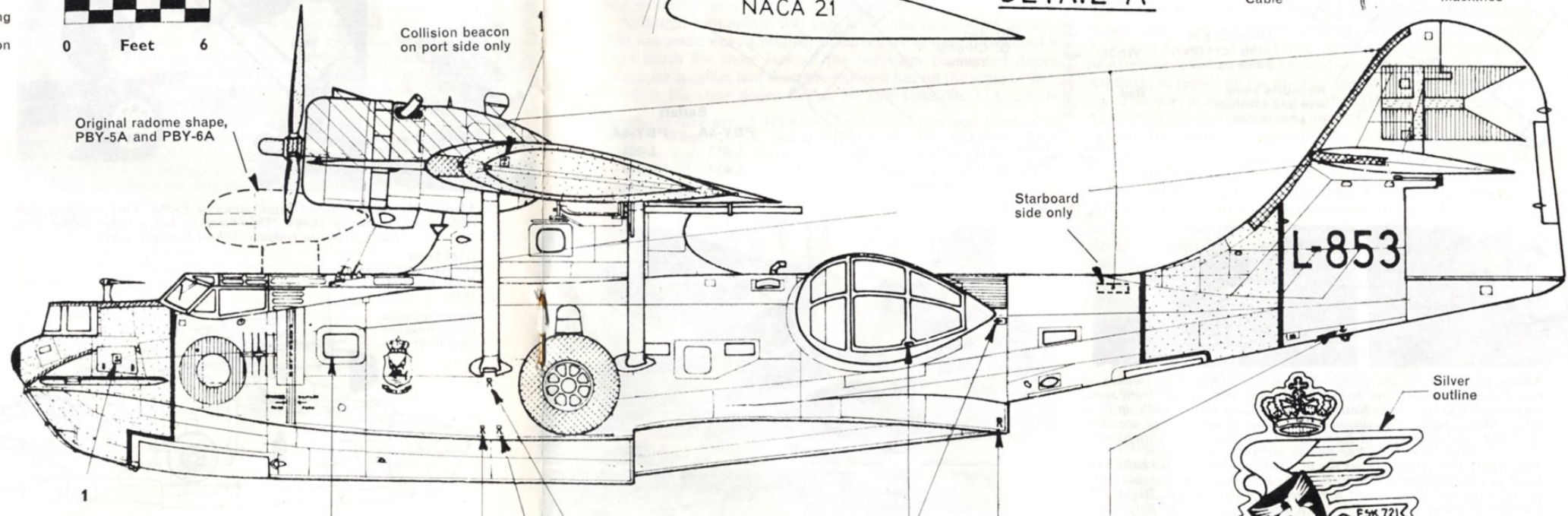


- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

Left: Enlargements of maintenance and operating symbols, all indicated by corresponding numbers on drawings



PBY-6A



DETAIL "D"

- | | | | |
|--|-----------------|--|------------------------|
| | Gloss black | | Red |
| | Matt black | | Orange |
| | Black anti-skid | | Light grey (warm tone) |
| | Rubber | | Dayglo orange |
| | Bare metal | | White |

Drawings by
P. Akselstad Petersen

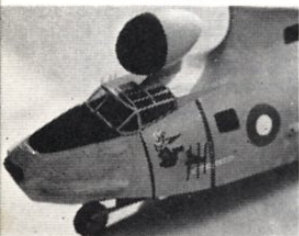
PBY-5A

(Chrome yellow hand grips)

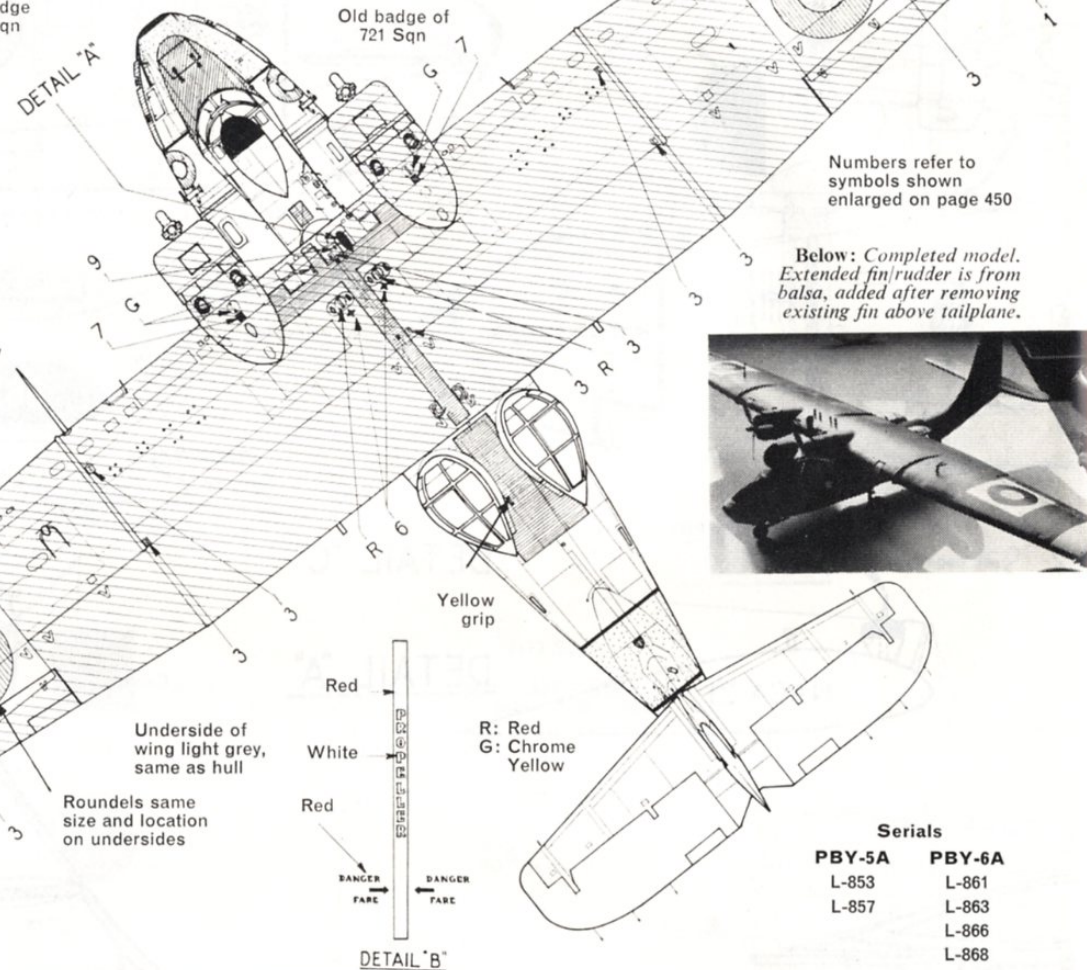
Hatch port and starboard



Plan view:
1:144 scale



Above: The nose modified with balsa plug and radome. Aerials are from sprue and fuse wire. Wings were fitted after painting.

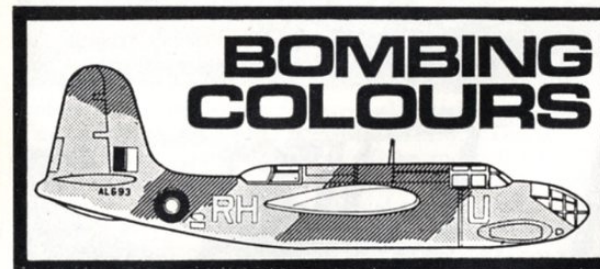
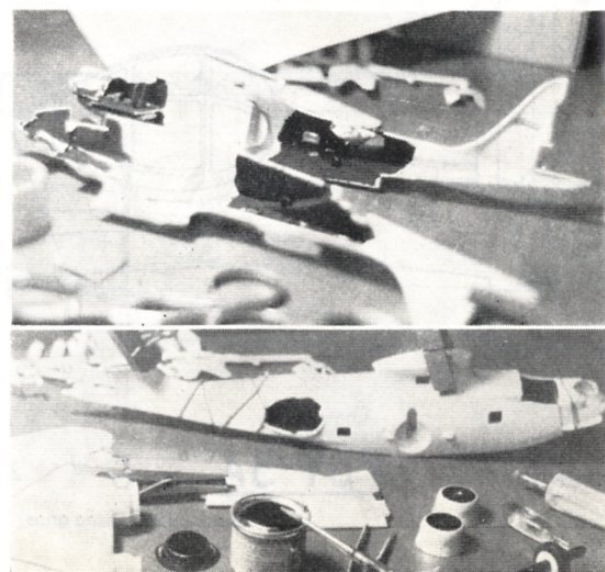


| Serials | |
|---------|--------|
| PBY-5A | PBY-6A |
| L-853 | L-861 |
| L-857 | L-863 |
| | L-866 |
| | L-868 |



Above, left: Nacelles are standard but have additional air intakes on top. These are made from balsa. Black wing walks came from semi-matt black transfer strip. Note the anti-collision beacon built up from balsa. Above, right: The canopies on the rear of the fuselage are standard and can be used direct from the kit. No guns or mountings were fitted. Note that the access ladder is in position.

Top, right: This picture shows the preliminary work needed before the fuselage can be joined together. Note the lead/Plasticine weights added to the nose and the areas of the fuselage painted black. Right: The Catalina fuselage is difficult to stick together. Plenty of polystyrene cement is needed and the two halves should be held together with Sello-tape, elastic bands, or pegs to ensure that they join properly. Note that the wing is also being assembled whilst the fuselage is drying out. Wheels and engines are also painted at this time.



Part 3: The De Havilland bombers

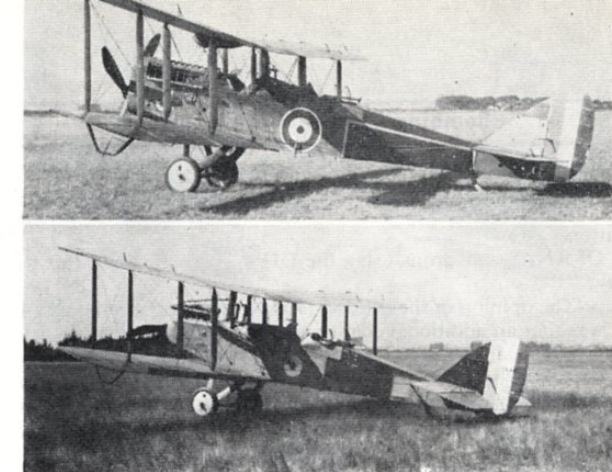
THE DH 4 was the first aircraft, designed specifically as a day bomber, to be put into large scale production. It was followed by the DH 9 which, although committed to large-scale production, was no great improvement on the DH 4 until re-engined as the DH 9A. Finally, there was the DH 10 twin-engined day bomber that arrived too late to see operations. The activities of the DH 4 and DH 9 were largely restricted to war-time, and those of the DH 9A and DH 10 to the post-war period; this part is confined to the DH 4 and DH 9.

General finish

With the DH 4 it was a case of its construction conditioning its basic colouring. Most aircraft up to this time were wooden structures, fabric covered; but the DH 4 had the forward fuselage covered in ply. As a result, the prototype and early production models, in 1916 before camouflage was universal in the Services, had clear doped fabric on wings and rear fuselage, with polished ply forward. On the camouflaged finishes of bulk production machines, the PC10/PC12 finishes in khaki green and chocolate brown were usual for main and tailplane upper-surfaces, and rear fuselage, with the plywood forward surfaces covered in paints to specifications X16 and X2, a grey undercoat and battleship grey finishing coat respectively.

Although camouflage was general by the time DH 4 production was underway, a number of early DH 4s were turned out in clear finish for sheer lack of the necessary pigmented dopes. Adequate supplies had been provisioned but on the scale of 20% PC10 to the clear dopes Cellon NP2 or Emaillite 11A, on the

Below: Service use. A Westland-built DH 4 (bottom) marked B2 in No 5 Wing, RNAS, and a DH 9 in No 211 Squadron, RAF, with the individual letter 'A' made into an individual name (J. M. Bruce/G. S. Leslie Collection and Bryan Philpott).



Above: Factory finish of a late production DH 4 (top) and a DH 9, showing areas of battleship grey (forward and rear fuselage), chocolate brown (mid-fuselage and wings) and clear doped fabric (wheel discs).

understanding that if five coats of doping were necessary to achieve the necessary tautness of the fabric, only the last coat would be in PC10. As it was, many units were using the PC10 for all coatings and so exhausting stocks. In fact, on January 25 1917 the Naval Stores Officer at Sheerness, responsible for provisioning RNAS units in South East England, reported a nil stock of PC10 and could issue only clear dopes. Such a situation is an early example of many to come in bombing colours—the disparity between what was laid down for the colour and markings, and what was actually applied.

The first squadron to equip with the DH 4 was No 55, with which Captain W. E. Johns, subsequently author of the famous 'Biggles' stories, gained much of his first hand experience. The squadron was based in France behind the British Front from March to October 1917, then it moved to Ochey, near Nancy, to join No 41 Wing, the fore-runner of the Independent Air Force. While there an American officer, sent by the Air Service, American Expeditionary Force, to report on the 'Preservation of Airplanes', visited No 55 Squadron and its Wing Depot, No 6 Air Park, to report on the finish of the aircraft and their weathering. This was in connection with the DH 4s the Americans were themselves producing.

There has been much controversy on the precise shade of the colouring of dopes on 1914-1918 aircraft, and opinions have been expressed in several books while artists have translated these opinions in colour. Some have said that the khaki-green was a fallacy and all were khaki-brown. It is pointless to ask the survivors of that war, for the mind is not retentive of shades. Here, no further opinions are given, but relevant extracts from the report of the American officer concerned at the time, promulgated by the Chief of Air Service, American Expeditionary Force on May 25, 1918, are interesting.

'The experience of the British at Dunkerque, Ochey, No 6 Air Park and No 55 Squadron has been valuable and indicates that the following coatings gave satisfactory results:

- To the linen fabric apply 6 coats of 'Raftight'. This is a colourless dope. Next apply 2 finishing coats of 'PC10'; this is an olive green dope, sometimes called 'Khaki Paint'.
- To the linen fabric apply 3 coats of Cellon, a transparent dope. Next 2 finishing coats of PC10 Emaillite, an olive green dope.

The second method is preferred by the Air Park men as it adds less to the weight of the plane and gives a satisfactory surface. The first method is said to be used because of a shortage of Cellon.

Continued on next page

Bombing Colours — continued

It is explained that 'Raftight' was the name for 'RAF tightener' (ie, dope—the initials standing for Royal Aircraft Factory). Cellon and Emaillite were proprietary dopes to official specifications.

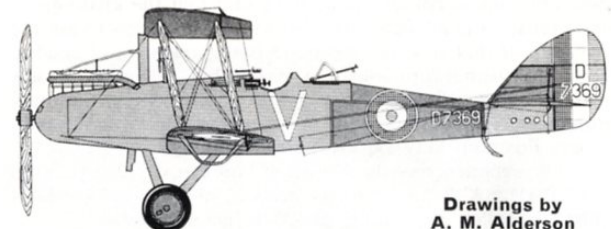
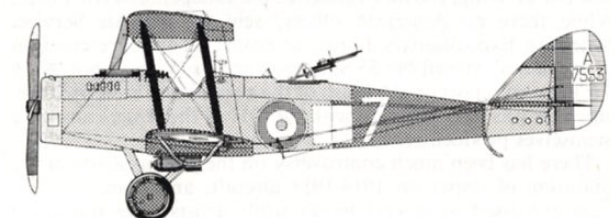
Of RNAS squadrons using the DH 4, the report had this to say:

'The opinion of those using faster planes, such as the DH 4 was that an additional coat or two of varnish over the PC10, gives the fabric a smoother surface, tending to cut down skin friction. Therefore, for the fast land machines at least it can be said that the use of varnish certainly has its advantages in giving added protection against weather and a smoother, better surface. The only disadvantages are that it adds slightly to the weight and cost and makes the planes show up a little more prominently when turning in the sunlight, due to reflected light from the highly finished surfaces'.

Thus camouflage was sacrificed for speed, a vital factor in day bomber squadrons, which at times had to fight their way both to and from their targets. In effect, their khaki-green surfaces had a sheen.



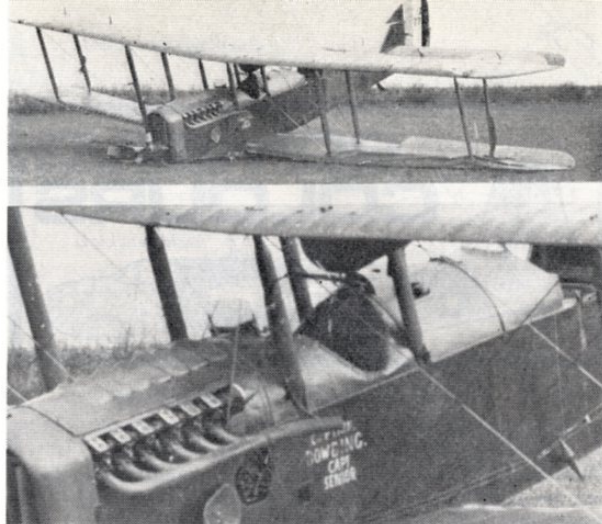
Above: DH 4 A7459 with a RAF3A engine at Bacton in September 1917 with a special fawn and blue camouflage applied in connection with a project for a daylight bombing raid on Kiel (J. M. Bruce/G. S. Leslie Collection).



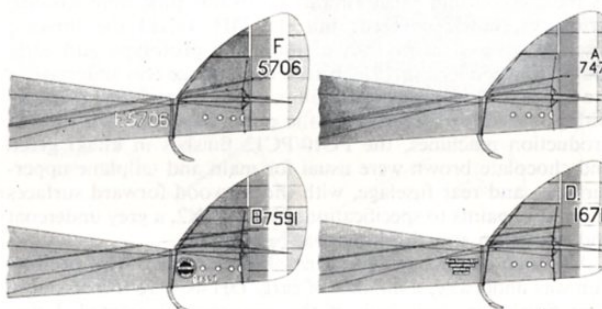
Drawings by
A. M. Alderson



Above: DH 4 of No 18 Squadron, RFC, 1917, (top drawing) and a DH 9 of No 211 Squadron, 1918. Struts on top drawing marked in black had varnished wood finish.



Above: Early production DH 4s surviving in 1918 often found their way into training units with some transition in markings. A7783 shown here has the typical serial presentation of the Aircraft Manufacturing Company, but is without a fuselage roundel. As an instructor's aircraft in No 44 Training Squadron, it bears the names of two instructors (as shown enlarged), but evidently it had been flown by a pupil on February 3, 1918 when this photo was taken (via J. T. C. Long).



Above: Manufacturers' stylings in factory finish: (A7473) Aircraft Manufacturing Company, Hendon (DH 4), (D1671) Mann Egerton Ltd, Norwich (DH 9), (F5706) Palladium Autocars Ltd, Putney (DH 4), and (B7591) Westland Aircraft Works, Yeovil (DH 9).

The painting of the DH 9 followed much on the lines of the DH 4, except that in many cases the plywood was painted in khaki-green or chocolate brown to match the fabric doping.

Unit markings

As day bombers, DH 4s and DH 9s serving on the Western Front came into the general scheme of squadron markings, of simple geometrical symbols as follows:

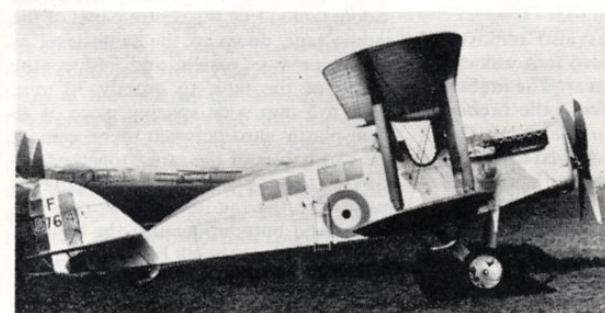
| Sqn | Aircraft | Marking aft of roundel |
|-----|----------|------------------------|
| 18 | DH 4 | 18 in white square |
| 25 | DH 4 | White crescent |
| 27 | DH 4 | White vertical bar |
| 49 | DH 4 | White dumbbell |
| 57 | DH 4 | White circle |
| 98 | DH 9 | White zig-zag |
| 103 | DH 9 | White slanting bars |

On March 21, 1918 the Germans launched their last great offensive, causing disruption on the Western Front, followed by a planned reshuffle of units to reinforce threatened areas. Among the many counter-measures taken was a decree by the Royal Flying Corps for the obliteration of all squadron markings on Corps Reconnaissance and Day Bombing aircraft. Thus

the markings tabled were not applicable after March 22, 1918. The object of this measure was to deny German intelligence an estimate of the reshuffle of forces from examples shot down. (On fighters, squadron markings were retained but changed to confuse enemy intelligence.) Individual letters or figures and flight markings continued to be marked as before. That is on the fuselage side, on the nose or aft of the roundel, and often repeated in white on the top wing and in black on the bottom wing. In No 55 Squadron an unusual embellishment for the period was the painting of wheel discs red, white and blue for the respective 'A', 'B' and 'C' Flights.

Serial markings

The DH 4 and DH 9 were both widely subcontracted and the various constructors each had their own techniques in finishing the aircraft and these became manifest in two ways. Firstly by the manufacturers' own trade marking and secondly by the method they employed in marking the aircraft's official serial number. However, local instructions by the RFC on the Western Front decreed from February 1, 1918 that manufacturers' names should not be marked. DH 4 and DH 9 serial numbers spanned the first world war range from 'A' to 'H' prefixes. Examples of individual aircraft include: A8000, DH 4 of No 18 Sqn crashed in forced landing after an air combat May 25, 1918—the crew were uninjured. B7591, DH 9 of No 6 (Naval) Squadron which shook off an attack by 6 Albatros Scouts during a raid on St Pierre Capelle railway sidings on March 9, 1918, when flown by Flt Cdr Le Mesurier, DSC, with Petty Officer A. G. L. Ryan manning the Lewis gun. B7749 was built up from salvage at No 1 (Southern) Aircraft Repair Depot, Farnborough. A7781, DH 4, of No 55 Squadron shot down an Albatros Scout out of control over Cologne on May 18, 1918. B7596 a DH 9 of No 206 Sqn flown by Lt L. R. Warren and Air



Above: Post-war finish; a DH 4A (converted Palladium Autocars DH 4 airframe) used for communications work with a passenger cabin added, and a DH 9 with a Napier Lion engine (an installation applicable to J6957-6962), both aircraft in aluminium finish overall (Real Photographs).



Above: Pilots and observers in DH 4, DH 9 and DH 9A squadrons did not appear to have the objections of fighter pilots to having the target-like roundel marked by their cockpits. This photograph was actually taken at midnight—in North Russia, 1919.

Gunner O'Brien shot down an Albatros Scout on May 3, 1918. D5611, DH 9, first flew April 12, 1918 and was delivered to No 119 Squadron at Duxford. F5727, DH 4 served, in No 57 Squadron November 1918.

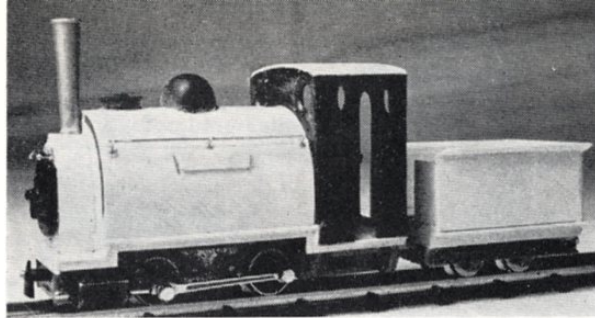
(The DH 9A will be the subject of a later part.)



Above: As a sidelight on the question of national markings (Part 1 of this series) we have had this interesting picture from reader Sandy Nichol of Aberdeen. The Bleriot Monoplane is the machine used by Lt Tryggve Gran in his flight from Cruden Bay, Aberdeenshire, to Norway. Starting out at 0800 hrs on July 30, 1914 he was forced back by fog and set out again at 1308 hrs. After flying for 4 hours ten minutes over the North Sea, he put down on the Norwegian coast, some 20 miles south of Stavanger, a distance of 320 miles. Later that day he flew to Oslo via Bergen to deliver a London newspaper to King Haakon.

Gran's epic flight was rather eclipsed by the trend of events; three days later Britain declared war on Germany. As Norway was then in need of aircraft to protect her neutrality, the Bleriot was bought by the Government and Gran flew it on anti-submarine patrols along parts of the Norwegian coast.

This picture is of great interest as it shows an indication of a national marking on an aircraft in Britain, before the British Services had adopted such markings. This is probably due to Gran's experience, for although originally a pupil of the Hall Flying School at Hendon, he also went to the Bleriot School at Buc, France, and the French had already adapted the roundel as a method of presenting their tricolour. Gran evidently made the Norwegian flag into a roundel form on the Bleriot shown, but this was not adopted officially by the Norwegian forces.



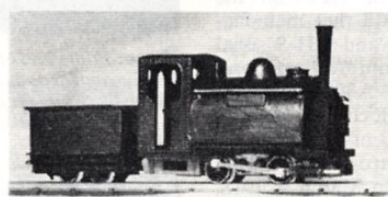
Left: The narrow gauge locomotive made from Airfix 'Pug' parts and plastic card on the Playcraft chassis makes an inexpensive model. Below: The same model after painting, awaiting its nameplate.

Simple loco for narrow gauge

THE narrow gauge 0-4-0 saddle tank locomotive I am describing this month is largely inspired by the Festiniog Railway *Welsh Pony* but it must be clearly understood at the outset that I am not claiming it to be an actual replica. The main reason for departure from the prototype is because I have tailored the model to fit proprietary parts; the Playcraft Decauville locomotive and the Airfix 'Pug'. The 'Pug' has already been used as the basis of a narrow gauge conversion—in the last issue—but this conversion offers a very different appearance for further variety. The main parts used are the cab, saddle tank, dome, tank filler, firebox and smokebox door. The Playcraft Decauville supplied the chassis and chimney. A Playcraft tip wagon provided the chassis for the tender. Remaining ingredients consisted of small pieces of 10, 20, 30 and 40 thou plastic card.

The locomotive body has been designed to be interchangeable with the Playcraft Decauville. The method whereby the Playcraft body is fitted to the chassis should be studied since the exact same method is employed for the new model. The chimney screws in place to hold the front end whilst at the other end the cab is held in place by two hooked projections or lugs on the chassis floor which engage in slots in the lower cab front.

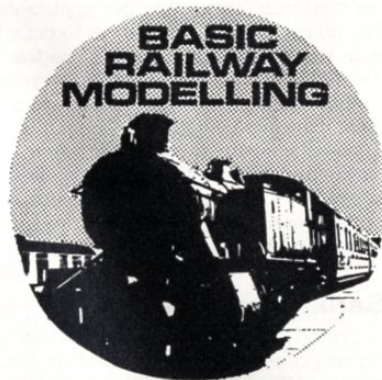
Construction began with the cab which overall measures 24 mm wide and 14.5 mm long. The Airfix 'Pug' provides the material for the front, back and two sides. Two pieces of 20 thou plastic card were cut and cemented together for the cab floor. One piece 24 mm x 14.5 mm and the other slightly smaller at 22 mm x 13.5 mm to allow a 1 mm wide margin or ledge along the two sides and rear. Notches were cut along the front edge to enable it to fit under and around the



lugs on the chassis. The Airfix cab sides were cut and reduced in length to 14.5 mm and the steps and handrails were removed. Strips of equal width were cut from both side edges of the cab rear to reduce the width to 22 mm.

The buffer beam was also removed and an opening 20 mm x 6 mm was cut in the centre of the cab rear. The firebox backplate was cut off from the firebox and put to one side for use later on. The firebox itself was also removed and kept to one side as this sees service later on as part of the smokebox! The cab front should also be reduced in width to 22 mm and the space where the firebox once was should be opened out into a rectangle 13 mm high from the base and 15 mm wide to allow clearance for the motor. The motor only projects into the cab as far as the thickness of the cab front so the opening in the cab can be concealed by a piece of 10 thou plastic card cemented on the inside. The firebox backplate can now be cemented in place and the regulator handle also.

Two notches need to be cut in the base of the cab front to clear the chassis fixing lugs. Now the two sides, front and back of the cab can be cemented to each other and to the floor, the two sides and the rear being cemented on the 1 mm wide ledges provided. Check that the cab hooks properly on to the fixing lugs on the chassis and that it fits fairly and squarely into place. Put it aside and leave the cement to dry out thoroughly overnight.



BY NORMAN SIMMONS

The Airfix 'Pug' boiler halves (parts 8 and 8A) are used but precious little remains of them after they have been cut up and very little can be seen of them after the model is finished. First remove the boiler mountings; chimney, dome and tank filler. Keep the dome and tank filler safely to one side as these will be used again. It is as well to cement their two halves together at this stage so that the cement will be dry by the time they are to be used. Also from the boiler halves remove the handrails and the lower parts of the boiler below the saddle tanks. File the centre panel of the saddle tank down to the same level as the outer two panels and reduce the length of the tank to exactly 30 mm. With a 5 mm wide spacing piece of 40 thou plastic card between them, cement the two halves of the tanks together.

With the cab in place on the chassis make sure the saddle tank fits over the motor and butts up against the front of the cab. It may well be that the TV suppressor and connecting wiring will need a little squeezing up to allow sufficient clearance. If all is well, cement the saddle tank to the cab front. Cement a piece of 20 thou plastic card to form the front for the tank. I cemented a sheet of 10 thou plastic card around the tank to hide all the joins and the holes where the boiler mountings had been removed. I wanted to emboss some rivets on this sheet but the little wrist-watch gear wheel which I use for rivet embossing was mislaid when I was making this model and I could not afford the time to look for it.

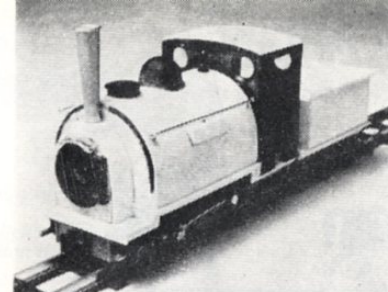
The smokebox, as I said earlier, is made from a section of the firebox removed from inside the Airfix 'Pug' cab front. A section 4 mm long is sufficient for the purpose. Fit the cab and saddle tank into place on the chassis and cement the smokebox to the front of the

tank so that the base of the smokebox rests on the chassis. After the cement is thoroughly dry, the part of the tank front inside the smokebox can be removed. You should now find that the body can be slotted and dropped into place on the chassis without any difficulty.

When you are satisfied everything is properly lined up, a hole in the top of the smokebox can be drilled to take the chimney. The chimney is perhaps the weakest looking part of the model since it looks so unlike the *Welsh Pony*. Ideally the remedy would be to have another chimney specially turned but I think it might be possible to modify the Playcraft chimney by building up a new shape either with plastic card wrapped around it or possibly with plastic putty or some other modelling medium. I haven't tried this yet but I think I will have to as the Playcraft chimney really offends the eye.

I finished off the smokebox by fronting it with a piece of 10 thou plastic card and wrapping a strip of 20 thou card around the top and sides. A rectangular piece of 40 thou card approximately 4 x 5 mm was cemented on the top to form a base for the chimney. A similar square base can be found on the Festiniog chimneys but on my model it also has a utilitarian purpose since it acts as a spacing piece of just the right height for the chimney fixing screw. The smokebox door came from the 'Pug' kit. The platform at the base of the smokebox and the framing under the cab and below the tank sides were made from pieces of 20 thou plastic card which when thoroughly dry gave the model useful added strength and support. Handrails using Bonds handrail knobs, a 20 thou plastic card roof and a base for the nameplates either side of the tanks completed the model. Most of the nameplate firms do a range of free-lance nameplates out of which you could find something suitable for this model.

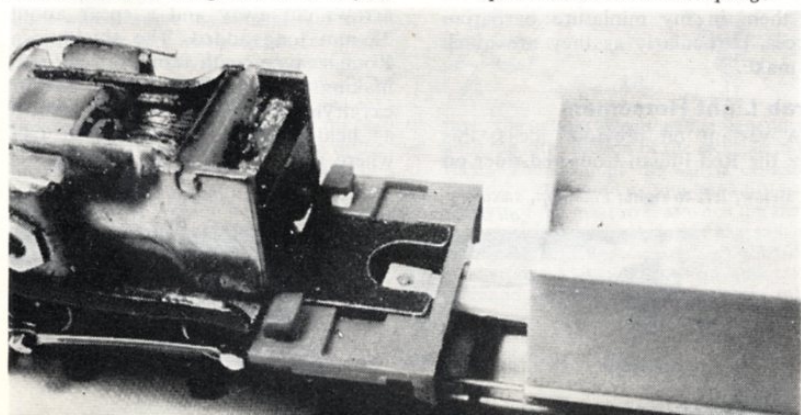
Whilst the tender body was made to look something like the Festiniog *Welsh Pony* tender it must be admitted that the chassis looks nothing like it. It is just



Above: Three pictures show the model ready for painting, a good look at the mode of construction, and a close up of the tender showing body fixing.

possible that with greater surgery the Playcraft tip-wagon chassis could be made to look more like the real thing but one of the difficulties I have encountered is that the plastic used by Playcraft—or more correctly Jouef—will not accept polystyrene cement. The tender body was made from 40 thou plastic card, the 11 mm high sides and back being cemented around a 27 mm x 19 mm base. The lips or flaired edges to the top edges of the back and sides were made from strips of 40 thou plastic card approximately 2 mm wide cemented flat on to the top edges of the sides and end and afterwards carved and filed to shape.

Below: Close view of the modified footplate and the tender coupling.



A piece of 20 thou plastic card 28.5 mm x 22.5 mm which is just wider and longer than the overall size of the body was cemented to the base of the body so that a slight projection about 0.5 mm appeared round the back and sides.

The first step in modifying the tip wagon is to take off the tip body and cut off the vertical supports. Cross members made of two thicknesses of 40 thou plastic card approximately 16.5 mm x 5 mm were fitted at each end of the chassis. Because they cannot be cemented to the chassis I built up strips of plastic card around the Playcraft chassis cross members, thereby locking the new plastic card cross members in place. The rear cross member was arranged to hook into projections cemented to the underside of the body, an idea something similar to the method used for fixing the rear part of the locomotive body to the chassis.

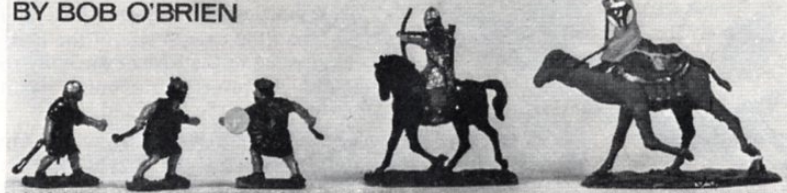
A single 10BA countersunk brass bolt and nut holds the forward part of the body to the forward chassis cross member and also serves as a pivot for the coupling bar. The coupling bar was made from 30 thou plastic card and measures 16 mm x 2.5 mm with the holes for fixing at either end spaced 13 mm apart centre to centre. The hole should be just large enough for a swivel fit on the 10BA bolt at the tender end and for coupling to the locomotive just large enough to hook on to the pin moulded on the Playcraft locomotive chassis which normally holds the rear coupling hook. It is necessary to file away the sides of the opening for the rear coupling on the Playcraft chassis to allow the coupling bar to swivel sufficiently around sharp radius curves. On the track the locomotive and tender stay permanently coupled together but they can be disengaged easily when lifted.

It is not of course essential to make the chassis and body of the tender separate and removable items as I have done. My purpose in so doing is because I hope at some time to experiment with additional pickups on the tender wheels, thereby helping to overcome the problem of the locomotive stalling on point-work. At the moment I am planning to make the pickups out of phosphor bronze strip soldered to printed circuit material which will be glued to the underside of the body. Flexible leads will be needed to pass the current through to the locomotive.

If it is of any encouragement to would-be modellers I would just like to add that I found constructing this model one of the most enjoyable pieces of plastic modelling I have done for a long time.

ROMAN FRIENDS AND FOES

BY BOB O'BRIEN



Part 9: Miscellany

AS this is the last article in the current series, I have departed from the policy of trying to deal with specific races or types, and will end up with a mixture of as many conversions as we can cram in. For this reason, descriptions will be rather shorter than usual, but methods of conversion and fixing will be the same as set out in previous articles. All types described can be seen in the pictures.

Roman Cavalryman

This represents the normal type of cavalryman equipped with javelin(s), short stabbing spear, sword and shield. This was the typical cavalryman of ancient armies before stirrups came into general use, and the combination of weapons carried is generally regarded as being the best for all round use, although these types would be reinforced as time went on by the more specialised lancers and horse archers. The model is from the top of a Roman infantryman on the lower half of a US Cavalryman, with the shield cut off at the corners, making a hexagonal shape. The tunic is carried on to the thighs with Plasticine, and a Plasticine cloak is added. A pin with flattened point, about 20 mm long, is used as a javelin. Tunic is painted as leather, and breeches are painted on, extending to below the knee.

Light Horse Archer

This has tunic, trousers, high pointed cap and soft boots. It is made from the Robin Hood archer top on a US Artillery rider bottom. The tunic is continued to the thighs with Plasticine, and headgear is from the same material. It is mounted on a Red Indian horse, shows no saddle but simply a blanket as in my model. There is a combined bow case and quiver slung on left-hand side. The longbow must be cut to about 16 mm long to represent the shorter composite bow carried by these riders. Colouring can be almost anything desired; material could be skins, furs, leather,

canvas—boots will have to be painted on with about three layers of paint to get right effect—this is in fact easier than trying to build them up from Plasticine or modelling paste.

Goths

Two types are shown; one is the Sheriff of Nottingham himself with the addition of a 'coffin' shaped shield and a 9 ft heavy spear. This should be about 35 mm long. The saddle should be cut down front and rear but should still retain its shape. These riders used stirrups and a proper saddle, and with the Sarmations can be regarded as the ancestors of the heavy cavalry of the Middle Ages. The other Goth is made from the advancing Sheriff foot knight on the lower half of a US Cavalryman. The left arm is drawn across the body and a small pin in centre of circular shield is pushed home, holding the shield and arm in position. A Plasticine cloak is added, and the plastic sword may be left as it is. These riders would be trousered and booted, with tunics of leather, skins or furs, and in some cases with mail shirts. Helmets would generally be worn, but some would be found bareheaded. The richer types would tend to be rather flamboyant.

Light Horseman

This can represent a German or a Briton. Is a very simple conversion, just the Ancient Briton Slinger on a Red Indian horse, with a shield and cloak added, and a javelin substituted for the sling. He has a blanket only and no saddle. He wears trousers and is bare chested. Clothes colour could range from dull to quite bright. This is one of my favourites and I use a lot of them in my miniature barbarian forces, particularly as they are quick to make.

Arab Light Horseman

A variant on previous ideas, this uses the Red Indian trousered rider on

a horse from the same set, with cloak, Arab head substituted, and a spear or javelin fitted in place of rifle. Light, bright colours are needed here. The small round shield is optional.

Asiatic Light Archer

This is made from the standing Red Indian archer. The head-dress should be sculpted or preferably given treatment with a light soldering iron to smooth down into a cap, while a skirt reaching to mid-calf is made from two thicknesses of model aircraft tissue wrapped around and glued in place, then set with banana oil. Bow and quiver are left as in the original, but two/three coats of paint are needed to suggest a light tunic reaching to mid-thigh. These little archers can be manufactured very quickly, and will be needed in great numbers if one intends to build up a Persian army. Colours should be light and bright as for the Arab.

Pikeman

Of no particular nation, but made so simply from the Robin Hood archer that he just had to go in. This is not quite the proper pike position; the right arm should be further back, but the figure looks very effective, and remember that a unit of pikes was a good cavalry stopper. The shield could not be used whilst the pike was in action, and would be taken up if enemy got to close quarters, when pike would be dropped and sword and shield used.

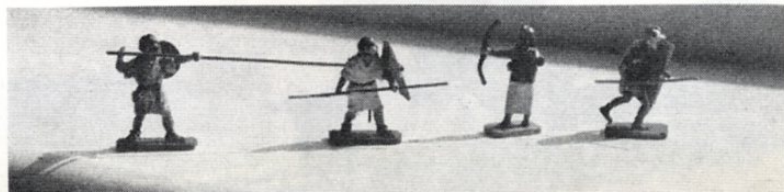
Auxiliary Spearman

Romans look better advancing with shield held tight in front, and this one has boss of shield cut off and replaced by pin which holds the shield in position and pins the left arm in place across front. The sword is cut away and replaced by a short spear/javelin, 25 mm long. He has a Plasticine cloak.

Variant on Airfix Roman

Made from the Robin Hood archer type in round helmet, this has bow and arrows cut away and a spear about 35 mm long added. The shield is a Roman type with corners cut off, making a hexagonal shape, as for cavalryman. Spear is actually shown as held in both hands, but in fact where a shield is carried the spear is

Below, left to right: Pikeman, auxiliary spearman, Asiatic light archer, modified Roman, all made as described in text.



Above, left to right: Roman cavalryman, Arab light horseman, Goth Cavalryman with helmet, light horse archer, Goth cavalryman, and German or Briton light horseman, all made as described in text.

normally used one-handed, as a large shield must be not only carried on the arm but also gripped near the inside front edge by the left hand on some suitable handle.

The Society of Ancients

At this time I would like to mention the Society, which was formed a few years ago and caters for those interested in Ancient and Medieval warfare, both as an historical study, and for wargaming. It has members all over the world, and has among its numbers people who have made special studies of various periods and the arms and methods of warfare used

in those periods. I have heard it described as a mixture of erudition and good fun, and cannot better that. It publishes its own magazine every two months—*Slingshot*—containing articles on arms, equipment and tactics, with descriptions of ancient battles, news of figures available, and articles on conversions, etc. Other publications are its own set of war-game rules, and (later this year) a set of rules for medieval sieges, and a booklet setting out the coats of arms of knights and nobles of the Hundred Years War. Other publications will arrive in due course. A year's subscription is 25s, bringing *Slingshot*, and

entry into the Society Annual War-games Championship for those who want to try their skill.

For further and fuller details, write to the Secretary:

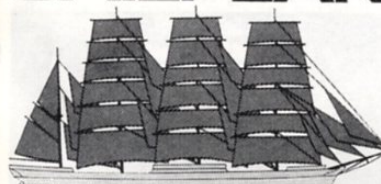
Philip Barker,
99 Brentford Road, Kings Heath,
Birmingham.

Or the London Area Secretary:

Edward Smith,
90 Burrage Road, Plumstead,
London SE18.

This completes our series on Roman Friends and Foes, though we hope to publish further individual articles on the subject from time to time. Next month we start a new series on British World War I troops by David Nash.—EDITOR.

SAILPLAN



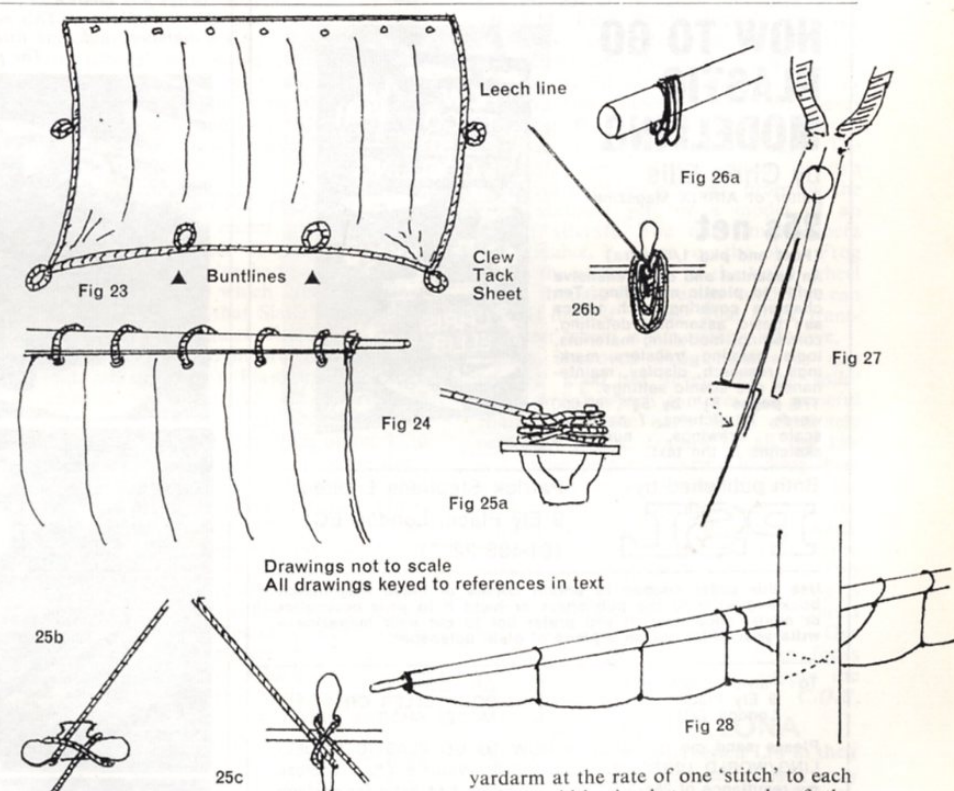
N.C.L. HACKNEY

Part 5: Sails and rigging

EACH Airfix kit includes sails with bunt lines, leech lines or martlets, and reef points moulded on their forward sides. In rigging the completed models, these lines should be replaced by rigging thread cemented over them and taken down to the proper belaying points. The reef points are dealt with below. The missing item on the sails in the kit is the bolt rope, which runs round all the edges of each sail on its aft side and embodies 'cringles' (spliced loops) for the various rope attachments. Fig 23 shows the aft side of the same sail as Fig 3 (in Part 2), but with its attached lines removed to show only the bolt rope and its cringles.

Against each of these, which are drawn larger than scale for clarity, are listed the lines which would be attached to them. Considerable care and patience are needed if the right number of cringles are to be formed in their correct positions. The thread for the bolt rope should be one continuous length cemented along the sail edge, looped by knotting it round a drill of the required size, and then cemented along to the next loop position. When the job is completed the loops are coated with shellac or varnish and left to dry.

When the appropriate stage is reached, the complete sail can be bent to the yard. This involves lashing it to the yard with



rope, the system which was in general use until the introduction of the jackstay in the 1800s. The head of the sail is cemented under the yard, with its foot out a little way in front of the mast so that when the sheets are attached and hauled taut the sail will billow realistically. A length of thread is then attached at one yardarm and taken over and under all the way to the other

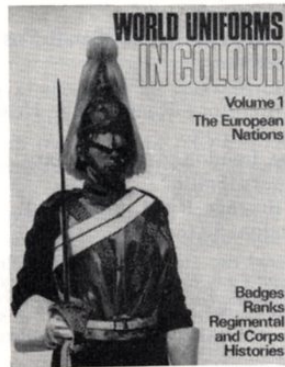
yardarm at the rate of one 'stitch' to each canvas width, ie, between each of the vertical lines on the sail (Fig 24).

If the ship is of a late enough period to carry jackstays the sail is cemented along the front of the yard with its head just forward of top centre. I have yet to see any jackstay modelled at less than 1:96 scale which didn't look like a young garden fence, and even at that scale it is an ex-

Continued on page 467

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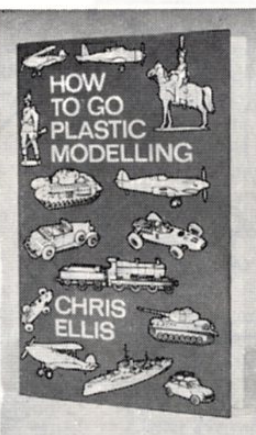
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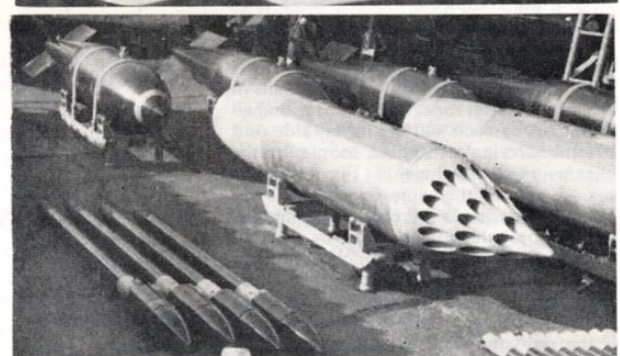
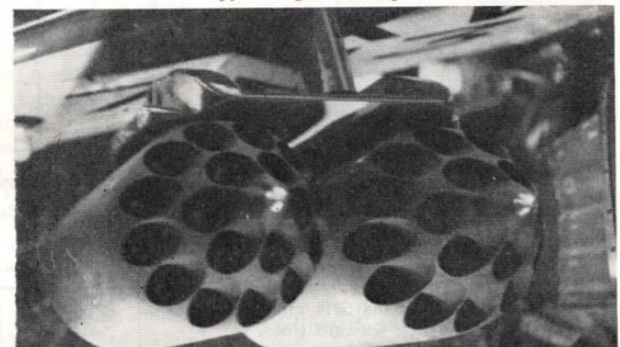
Ordnance Loads — from page 441

ordnance clusters to be carried. Most US combat types have them and they are now coming into service with British Phantoms and Buccaneers. Lightweight release units are used on the Harrier and Jaguar, usually to carry twin stores.

The easiest method of making these racks is to file them to shape from pieces of heat-stretched sprue or laminated plastic card. The standard colour appears to be a light grey similar to the under-surfaces of Air Support Command aircraft.

This article is only intended to be a general guide to plastic modellers on the subject of missiles, bombs and pods. If a kit manufacturer introduced a box full of these items on to the market, we should all be happy... but meanwhile, the best advice is to 'have a go' and make your own! With this in mind the close-up views of ordnance loads shown here should enable the modeller to identify typical loads and weapons and I have included drawings to 1:72 scale of the most useful types for models of current RAF/RN types.

Key: (5) *Matra 155 rocket pods (each carrying 18 SNEB 68 mm rockets) suspended from a twin carrier on the inboard pylon of a Hawker Harrier. The pylon is painted gloss dark green and the rocket pods are matt black.* (6) *A selection of current RAF/RN aircraft weapons. At rear are three 1000 lb HE bombs (drawing and colour details, page 441), at right is a Microcell 2 inch folding fin rocket pod (which contains 37 rockets) (also drawn on page 441), and on the left are four heavy HVAR rockets which are carried in clusters of four.* (7) *A close view of the mounting of a jettisonable 2 inch folding fin rocket pod (shown in picture 6) suspended from the outer pylon of a Hawker Harrier. This particular pod is light grey instead of natural aluminium and it is fitted with its protective black disposable cap. The pylon is gloss dark green.*



NEW

KITS AND MODELS

NEW FROM NICHIMO

TWO new tank kits in 1:35 scale by Nichimo which we've just received for review come as close to perfection as any yet. In fact, they seem to put Nichimo on a par with Tamiya in terms of accuracy and quality. First of the pair is a PzKw IV Ausf F2, early production vehicle, though Nichimo call it an Ausf G for some reason. Like recent Tamiya



offerings, the plastic parts are moulded in a rough steel-like texture which is most realistic when painted. Nichimo have avoided all gimmicks—there are no features like opening hatches which often spoil scale appearance. The amount of fine detail included is quite fantastic, even the exposed leads to the headlamps being shown, as well as the minute return springs for the folding ends of the track-guards. The only inaccuracy that we could spot readily was the length of the gun barrel which is about 5 mm short, though this hardly notices except when measured against scale drawings. Presentation is first rate and there are no snags in assembly. The gearbox is semi-assembled leaving the modeller the choice of completing the transmission with high or low gears as desired. The chassis can be taken apart if there is any need to change the gears later. Two U11 batteries (not supplied) provide the power and there are just two wires to be connected. There is a ready-assembled on/off/reverse switch for control with no provision for steering or remote control. Tracks are the usual rubber type, and we particularly liked the very simple free-running road wheel assembly. A choice of good accurate transfers is provided, with sketches to show positioning.

Second model is a really superb Charioteer which is a great eye-catcher and beautifully accurate. The mode of construction is similar to that of the PzKw IV. The road wheels were less satisfactory when assembled because their larger size emphasises a slight eccentricity

caused by the plastic axles and bearings when the model runs over a very smooth surface. On any sort of rough 'terrain', however, this is not noticeable. What cannot be achieved is the 'sag' in the top run of the track so characteristic of the Charioteer, but this may come if the track stretches with running. Superfluous 'invasion stars' have crept into the transfer sheet—otherwise full marks to Nichimo. We hope they will bring this kit out with a new turret as a Cromwell, too.

The instruction sheets in both kits are in Japanese, but easy enough to follow. We made each model comfortably in an evening apiece. Summing up, both are to be highly commended, and anyone who has not yet been tempted to try tank models in 1:35 scale could safely 'take the plunge' with either of these and be suitably delighted with the result. Our samples were supplied by BMW Models of Wimbledon and cost 37s 11d each, which is not unreasonable for the high quality offered. C.O.E.

PLASTIC RODS

FOLLOWING recent correspondence on the subject of plastic rods for model making, we've had samples of the Slater's product which readers wrote about. It appears that Slater's themselves had kept fairly quiet about this useful material! Moulded in brown polystyrene and called 'Slater's Plastikard Rod', an assorted packet of 25 12 inch lengths comes packed in a polythene bag for 2s 9d. Diameters range from about 1/16 inch to 1/64 inch and this rodding does, of course, have scores of uses for modelers and kit converters. Exhaust pipes, drain pipes, engine detail, track rods, scaffolding, fuselage framing, struts or masts are just a few examples taken at random. It can be cemented with ordinary polystyrene cement, is flexible to a degree, and, of course, can be chopped to length as required. One packet should last the average modeller for a long time and we venture to suggest that at its modest price per packet any keen kit maker will find the investment worthwhile. Jones Bros of Chiswick, who supplied our sample, hold stocks and can supply by post. C.O.E.

NEW LAMPS FOR OLD

COMMENDABLE venture by Frog is the revision of many of their older kits of 1:72 scale aircraft models, which have just been re-issued in a new series in polythene bags. All the moulds have been 're-worked' very deftly to eliminate such features as etched marking positions, which marred some of the older items,

and add accurate new panel detail and other surface improvements. We reviewed the old Fw 190 which had been so treated a few months back. Now this kit also appears in the 'bagged' series together with all the following: Hurricane, Tempest V, Me 109F, Typhoon, P-47, Zero, Spitfire, Sea Fury, Fokker D21, MS 406, and Macchi MC 202. Big new feature is the provision of completely new, splendidly accurate and imaginative transfer sheets, each of which gives a choice of two sets of markings. We had two samples from the range, the Spitfire and the MC 202. The Spitfire has transfers for either a Mk I of No 19 Sqn in September, 1940, or Bader's Mk Va of 1941, the quality of the new markings being excellent. Fine details include walkway markings and stencilled maintenance instructions and the modest price of the kit, 3s, would not be unreasonable for the transfer sheet alone! Whichever markings the modeller uses, he gets a spare set of value for other models. The MC 202 has a similar choice of two colourful marking schemes, probably the most accurate yet for a model of an Italian aircraft. The only improvement not possible, it seems, on the older Frog kits is the etching out of the 'solid' wheel wells, though the average modeller can do this himself, or use solid black transfer sheet which is surprisingly effective.

This improved Frog Spitfire is certainly a 'good buy' (even with the 'solid' wheel wells), which captures the graceful character of the early Spits absolutely perfectly. Added feature of all the kits is a colour plan on the card backing sheet which acts as a painting guide for the model. On our Spitfire, however, the printing was poor and the colour guide would confuse a novice who knew nothing about camouflage of 1940! This 'new lamps for old' policy by Frog is most refreshing and should be welcomed by 1:72 scale aircraft builders. Our samples, at 3s each, came from Jones Bros of Chiswick who can supply the whole range by post. C.O.E.

LATEST BELLONA

NEW release by Merberlen Ltd in their Bellona Battlefield series is a very realistic moulded diorama depicting the standard German 7.5 cm anti-tank gun strongpoint of World War 2 as laid down in field regulations. It features the gun emplacement itself with a trench and flanking machine gun posts for the defence platoon. At rear of the emplacement is a revetted concealed dug-out for the gun and ammunition, complete with

Continued on next page

New Kits—continued

removable roof. Moulded in brown plastic, the outfit can be used as it comes or further be enhanced by painting and the addition of further surface detail (like ammunition boxes) by the modeller. Measuring 16½ inches × 10 inches, this is the best yet in the Bellona series, in our view, because it could be used for virtually any nation and period of wargaming, quite apart from its intended purpose. Merberlen Ltd, Hawthorn Hill, Bracknell, Berks, can supply by post at 11s 3d (plus 1s 3d postage) as can any stockist of Bellona models. C.O.E.

FROM EAST EUROPE

A COMPREHENSIVE range of East German jet aircraft kits, made by Bauanitung, is being imported by Mr P. J. Charlton, Manor Park Avenue, Princes Risborough, Aylesbury, Bucks, who supplied for review a 1:100 scale Caravelle, costing a moderate 5s.

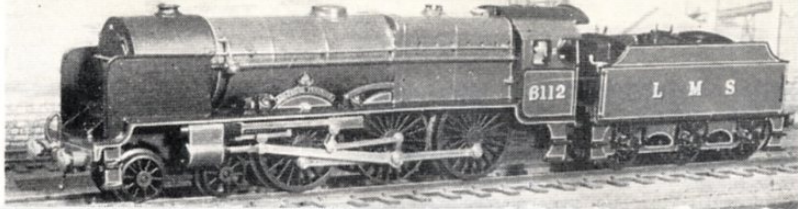
Although crude by Western standards, the general outline appears to be quite accurate. There are no panel lines, but a model of this size would need to be covered in Metaltin anyway. A thin sheet of transparent plastic is supplied for glazing but due to the thick fuselage walls this is a difficult operation. Three colours of plastic are used, which represents an unusual level of refinement, and generally all parts fit together well. A useful capsule of liquid polystyrene cement, together with a lump of clay, are included with the kit. Transfers, which model 'WHEEL', an Air France Caravelle, are not bad and plenty of spares are provided. The instruction sheet is in German, Polish and Russian but all the parts are numbered and their location shown on a view of the completed model.

Mr Charlton can supply at least nine other kits, including the DC-8, Comet 4a, Yak 2 and Mig 21. Prices range from 3s to 10s. These kits are worth collecting in their own right. If a little work is put into them they can look very good indeed; they are certainly the best offerings from the Eastern bloc. An SAE to Mr Charlton will bring details. C.S.

NEW TRANSFERS

THE first sheet of transfers to be produced by a new company entering the model decal market is a top rate offering of BAC Lightning markings. This is exceptionally well produced and offers real value for money. At 7s 6d Model-decal are providing squadron insignia and serials for every squadron at present using this type of aircraft including No 92, 111, 5, 74, 23, 19 and 56 Squadrons. The pack includes application instructions and complete aircraft colouring details.

The exceptionally fine detail of these transfers is noteworthy. Colour matching, too, has been given very careful consideration. All marks of Lightning have been catered for so that either the Frog,



Latest addition to the Wills range of 00 gauge 4 mm scale kits is this magnificent model of an un-rebuilt 'Royal Scot' locomotive, designed to fit over the Tri-ang 'Britannia' class chassis which must be purchased separately. The kit is in the usual form of white metal castings which can be assembled with any good impact adhesive. The splendid LMS livery shown here on the Wills' demonstration model is, of course, dependent on the skill of the purchaser!

Airfix or Hasegawa kits can be used. One other interesting point is that in the serials given any variation of numbers using the basic XR, XS, XN, or XM prefix can be made up so that in theory any aircraft in any squadron can be modelled. This is the type of consideration that the model maker wants—a decal sheet really well thought out and presented so that the cost does not in fact work out more than the kit and can be used in infinite variety.

Other new issues of decal sheets this month include two from Stoppel in Denmark.

The contributions from Denmark are well up to Jacob Stoppel's accepted high standard. Sheets No 29 and 30 include Cambodian, Columbian, Peruvian, Uruguayan national markings in the former and Czechoslovakian, North Korean and Polish in the latter. The delight of the South American sheet is in the bright yellows, reds and blues of these insignia, whereas the Communist sheet has minute Polish and Czech markings for use on aircraft used by exiles from their native countries during the war. Both sheets have a gloss finish but are accurate, adhere well to any model and provide enough for almost all one's needs if modelling any aircraft from these countries. Sheets can be obtained from most of the best model and mail order shops at 3s 6d each. A.W.H.

MORE MICRO DECALS

FROM Micro Decals, Martin Krasel Studios, Culver City, Calif, USA, we've had the latest in their top quality transfer sheets which are uniform with previous releases in this ever-growing series. Taking them in catalogue order, No 21 features 1:72 scale markings and squadron emblems for pre-war US Navy aircraft, a colourful sheet this with 22 pairs of the most famous squadron markings such as the 'Top Hat' of VB-41 and 'Felix the Cat' of VF-3 among less well known markings. There are 'US Navy' and 'US Marines' legends, assorted code numbers, BuNos, wing and fuselage flight strips, efficiency emblems plus the personal markings of the Assistant Secretary of the Navy. No 22 is the equivalent sheet with pre-war US Army markings, 94th Pursuit and 27 other squadrons, plus legends, lettering and colour strip. No 23 is a first-rate sheet with markings for six famous B-17s including 'Memphis Belle' and 'Vicious Virgin', all applicable to the Airfix and Revell Fortress kits. No 24 is a similar sheet for six famous B-24s including 'Strawberry Bitch' and 'The Witch', also applicable to Airfix and

Revell Liberator models and particularly well done. No 25 is a most useful sheet of black USAF codes and serials in five different sizes and two styles, one of which is the stencil type of lettering not commonly available elsewhere. No 26 is the same thing in white. No 27, the same again in yellow. No 28 is Luftwaffe codes in red and black, 42 mm high and in three different styles. No 29 is the same again in white and yellow. No 30 is the same again in blue and green, and lastly No 31 is a further set of Luftwaffe codes in black and red, this time 60 mm high and in two styles. Since this listing is rather complex, we suggest that anyone ordering quotes the sheet number rather than the description. US price per sheet is 75 cents for sheets 25-31 (the codes only) and \$1.50 for the remainder which are multi-coloured. All these sheets are to a very high standard and in perfect register as well as being matt and commendably thin. They can be had direct from Martin Krasel Studios in USA, but Modeltoys of Portsmouth now stock them in Britain at 15s per sheet. They should have these new issues very shortly. C.O.E.

NEW FROM FROG

NOW generally available are two new models from Frog, namely a Messerschmitt Bf 109F and a Grumman A-6A Intruder. Both are well worthy of purchase. In the former, a well-known aircraft has been produced which will delight the enthusiast as it is as accurate as anything else on the market. A choice of two variants is possible from the kit, one for tropical operations and the other for more temperate regions. The transfers, too, are of good quality as they depict the markings used by Marseille and Galland both extremely well-known German fighter aces of the last war. The kit has 30 parts which clip together very neatly. Alternate bomb or long-range fuel tanks are given and the undercarriage has either a one-piece construction for sticking in place in the retracted position or else there are separate wheels and undercarriage legs for display with wheels down. This is an exceptional kit in all ways and the only criticism concerns the shape of the wing leading edge which appears to be a little too 'square' rather than a true aerofoil section.

The Intruder is also an excellent kit. Particularly noteworthy is the moulding of the two fuselage halves which are top rate examples of the skill of the craftsman who produced them. The rest of the model is also well produced, in particular the canopy which is a very large one for

Continued on page 467

AIRFIX magazine

MODELTOYS

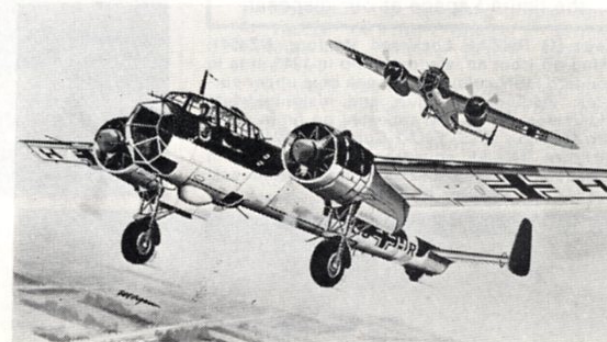
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DECALS

Current ranges Micro-Scale (1-52), A.I.R. (1-14), Authenticals (2-6) in stock, also good stocks held on Stoppel and ABT. All Airmarks available from stock as released, complete range Letraset Dry Decals as advertised in stock also. Postage on all decals: Up to 3 sheets, 6d, 4 and over, 9d.

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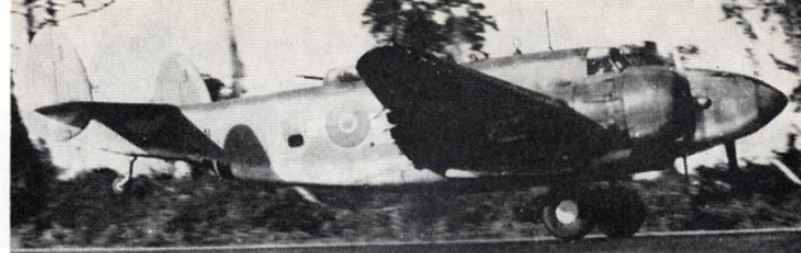
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photoPAGE

More rare pictures from readers with captions by Michael J. F. Bowyer. A free Airfix kit is awarded for every picture published, but please note that there is usually a delay of some months before publication due to the limited space at our disposal.

Key: (1) RNZAF Lockheed Ventura, NZ4541, taking off from an island airstrip in 1945. It is in standard USN colours, dark sea blue upper surfaces, medium sea blue, and insignia white undersides. Serial 4541 repeated on fin in white with 45 below it. (2) F4U-1 Corsair NZ5240:40 of unknown RNZAF squadron in 1944, again in USN colour scheme and with central bomb rack. Pictures by R. J. Lane.



Key: (3) Spitfire 18 RG-J, the CO's aircraft of 208 Sqn, Palestine, 1946, is recovered by Coles crane after a crash. Note Sqn Ldr's pennant ahead of cockpit. (4) Another Spitfire 18, RG-V, of 208 Sqn at the same period. Pictures by Barry Nevill.



Key: (5) Silver Spitfire IX BS467:RG-C, also of 208 Sqn, 1946, with camouflaged Mk IX NH487 beyond it. A/D panel is black. Picture by Barry Nevill. (6) A Whitley of 51 Sqn at Biggin Hill, 1938, coded V and with large squadron crest on the fuselage side. Serial unknown. Photo by V. S. Hawk.



Key: (7) King George VI (far right) arriving at RAF Harwell in the impeccable Envoy G-AEXX of the King's Flight, 1938. Machine was finished in red/white/blue/silver, the Guards' Club colours. Picture by V. S. Hawk. (8) Brightly coloured Harvard NZ926 was yellow overall with black A/D panel, and red fuselage stripe. Number 6 was red outlined black. Upper wing roundels were red/blue. Note serial, very small, on rudder only. Pictured by R. J. Lane at Woodbourne New Zealand, 1941. (9) C-60A Lodestar, NZ3510 in 1943, coded D in black. Standard USAAF colours of olive drab with neutral grey undersides and standard RNZAF roundels. (10) NZ413:0, an Anson 1 of the School of General Reconnaissance, RNZAF New Plymouth, 1941, in standard finish with grey code, a simple 'paint conversion' for the Airfix model. Pictures by R. J. Lane.



Letters to the Editor

'Douglas' facts

I WAS delighted to see the fine colour view of Tallylyn Railway locomotive No 6, 'Douglas', on the front cover of the May 1969 issue.

However, some corrections are required to the description on page 387. This locomotive was one of six built for the Admiralty, not the War Department, in 1918. It was delivered from works on February 2, 1918, and was reported in use by the Admiralty Air Construction Service, at Manston, Kent, in that same year. It arrived at Calshot in October 1921. Calshot had been a RNAS station up to the formation of the RAF in 1918, and was still under naval influence. Thus, Andrew Barclay No 1431 did not see service with the Army Service Corps.

The 1953 overhaul at Hunt Bros (Oldbury) Ltd's works included widening the gauge from 2 ft to 2 ft 3 ins, and not the reverse as you state.

F. W. Cooper, Southampton.
Mr Cooper is author of The Calshot RAF Railway, published by the Oakwood Press.—EDITOR.

Tank finish

RECENTLY, when trying out different ideas for weathering on old models, I discovered an exceptionally authentic-looking system of applying British and American weathered olive green; the idea is simple:

(1) Apply an olive green base coat, and while still wet, (2) darken the olive green with black and add dark olive green in blotches or streaks all over model.

(3) Lighten the olive green with yellow and add lightened olive green in blotches or streaks all over the model.

(4) Now either smudge these colours with the fingers, and then brush over lightly, or mix a very thin olive green and apply sparingly over the model with a brush.

Both methods give comparable results and look 'like the real thing'. I have not yet tried it with sand or other colours but I think it may be just as effective.

P. J. Charlton, Aylesbury, Bucks.

Camel details

FOR modellers wishing to detail a Camel model, may I make a few points on the cockpit area drawing in your May issue.

The port gun link chute went out of the top decking adjacent to the feed block, and cases went out of the chute through the oval panel. The starboard case chute was similar, the link chute went out of the port side of gun and fed into the case chute. The case chute was sharply angled near the gun.

The oil tank filler was on the top of the tank, hidden in photos behind the starboard front centre-section strut.

Item F on the drawing is the air intake tube. The carburettor was situated just in front of the elbow in the air intake, controlling the volume of mixture. The mixture richness was controlled by a needle valve in the cockpit, adjacent to the fuel

filter and throttle/mixture quadrant (port side).
Item D on the drawing is the magneto. Two were situated on the engine back plate with the oil pump and, in some cases, an air pump to pressurize the main tank. A hand pump was located on the starboard side of the cockpit.
Thank you for the article. The colour scheme drawings were excellent, up to the usual standard of your magazine in fact.

D. Bailey, West Wickham, Kent.

Carl Surman writes: *Some of the captions were inadvertently mixed up; the caption to drawing X should have read as follows: 'c/s other aircraft, uncover area B but retain tubing for aircraft 2. Aircraft 3 likewise but discard tubing. Leave area B covered for aircraft 4. Lines B indicate cap strips, applicable only to aircraft 5, which is otherwise the same as aircraft 3'.*

The compression rib was also omitted from this drawing. It is in the same place as that in drawing V. Ply and metal panels for aircraft 5 should be black. In the cockpit drawing, the key letters should read as Mr. Bailey states. As several other readers have pointed out the marking on the rear fuselage in drawing 3 was the Clayton and Shuttleworth trademark.

F-100 squadrons

I HAVE just got a copy of AIRFIX magazine and read with interest your write-up on the Hasegawa F-100D kit. It's a very good kit and, being a F-100 man, makes it even more enjoyable for me. You state that the squadrons on the transfer sheets are not identified but actually these are in English numbers at top of the sheet.

(56-2910) with red marks and TAC flash is from the 612th TFS/37TFW based at Phu Cat AB, RVN. This was second squadron to be assigned to the wing, and originally came from 401st TFW at England AFB, La. This unit is known as the 'Screaming Eagles'.

(53543) 55-3543, F-100D with blue marks and red/yellow/blue flash is from the 35th TFS/8th TFW based in Japan in the early 1960s. It later had the F-105D, then returned to George AFB, Calif. in July, 1964, began conversion to the F-4, and has now become a famous F-4 wing operating in SE Asia from Thailand.

(63198/SM) is 56-3198 operated by the

31st TFW, squadron unknown, based at Tuy Hoa AB, RVN.

Hope this information is of interest.

G. Pennick, Feering, Essex.

Colours '68

I SHOULD like to make a few comments on Mr Bowyer's article, 'Colours '68', in the March AIRFIX magazine.

Although the Danish Air Force TF-104G at Coltishall was in natural metal finish, the single seat F-104Gs had mainly grey fuselages with natural metal showing only on the rear end, from a point just behind the wing trailing edge. It is interesting to note that the white wing top surfaces had a natural metal square on which the Danish roundel was painted.

P. F. Thompson, Cheadle, Ches.

Airfield vehicles

READERS planning a present-day military airfield scene as a setting for their Airfix models, would do well to lay in a stock of yellow paint for any ancillary equipment intended for the layout.

All vehicles that operate solely or mainly on the airfield, be it RAF, RN or Army, are now being painted bright yellow overall, with the exception only of wheels and chassis. Even that relief is not always present, as the writer has seen Leyland Hippo refuellers where only the tyres were not yellow.

The main categories of vehicle involved are Air Traffic Control Landrovers, refuellers, cranes, aircraft tractors (both the David Brown as in the Stirling kit, and the modern heavy duty types), gritters, snow clearance trucks, and aircraft servicing vehicles. Additionally, the GCA trucks and trailers actually sited on the airfield are to be yellow, as are all bomb trolleys and similar equipment. The canvas tilts of any of these vehicles are to be painted 'stone' colour, though the exact shade seems to vary rather.

Runway caravans will remain red and white checks, but the roof of such vehicles is, of course, yellow, as is the miniature windsock normally fitted.

Fork lift trucks continue to be painted yellow, but with black diagonal lines.

By conversion from military vehicle kits, many of the above can be prepared for the layout, but the selection would be much wider when the long promised RAF Emergency set appears.

F. A. Chown, Braunton, Devon.

Japanese tank names

IN a recent issue of the AIRFIX magazine there was an illustrated model-making article by K. M. Jones entitled 'Type 95 tank Kyu-Go'. I wish to point out that: first, he did not mention the tank's full classification and secondly, the tank's official code name is not exactly as stated.

There were several Japanese tank classifications and the weight of the vehicle determined the classification. The

Continued on next page

Letters — continued

Type 95 'Kyu-Go's' 6.7 metric tons kerb weight put it in the Light Tank classification.

In 1934, the Japanese Imperial Army began assigning code names to home-built tanks. The code name was an untranslatable Kanji letter combination; the first letter tells the tank classification and the second letter shows the design order which that particular classification went through. KE was the first letter chosen for the Light Tank classification. However, the Type 95 Light Tank's correct code name is HA-GO which is an exception to the KE- rule. There are exceptions to almost every rule, so HA-GO is not too extraordinary unless one realizes that the Type 95 Light Tank was the first Light Tank which Japan had. As for Kyu-Go, those are the Kanji letters for Nine and Five, which was the more prevalent soldier's code name for this tank.

The usual Allied designation for this tank was Type 95 Light Tank HA-GO (Model 2595) but the Japanese designation is Light Tank Type 95 HA-GO.

Paul M. Roland, Florida, USA.

Tank terrain

SOME readers may be interested in a ready-made source of scenery for Airfix tanks. It is the plastic mock-coal from an old electric fire of the 'flickering' sort.

Different manufacturers produce varying kinds of plastic 'coal' and when painted they form very effective, rocky countryside.

It has many obvious advantages, particularly where space is limited, being strong, clean, and easily stored.

J. G. Fairbairn, Melton, Suffolk.

Aircrew figures

IN a recent issue of AIRFIX magazine, I noted a request for information on air crew dress. The following remarks applying to SEAC Liberator crews may be of interest.

The tropical flying helmet was worn; this was of a light khaki material, with black earpieces. Goggles with dark lenses were frequently worn on daylight ops, particularly by the gunners. Oxygen masks were grey. Silk scarves of varying hues were worn by many aircrew.

Dress for low level ops was usually a battledress blouse (dark blue in the case of Australians), over a khaki drill shirt, KD slacks, and in most cases, ammo boots. The latter were in case we were shot down and had to 'walk out', being much more durable and comfortable than flying boots.

Some aircrew were issued with 'escape' suits; these were a kind of baggy overall, khaki or jungle green in colour. This garment had numerous pockets containing survival gear.

When flying at higher levels, we usually wore full battledress (RAF blue), and Irving jackets, which were dark brown with a yellow hood.

Over all our clothing, we wore a Mae West and parachute harness which was reddish brown, with grey straps.

The khaki drill varied in colour from buff to a very light brown. Modellers can obtain this effect by adding varying quantities of white to Humbrol khaki paint.

W. T. Bowler, Wednesbury, Staffs.

IN the August, 1968, issue, Mr Rands made a request for aircrew clambering on board their aircraft. I have found that air gunners from the Fortress and the Mitchell kits, especially the mid-upper gunner from the latter, when attached to Airfix commando ladders, look quite realistic if propped against the plane's side.

A. D. Scott, Pudsey, Yorks.

Record straight

WITH reference to the March issue, I was very interested to read Mr J. B. Church's letter concerning my photos of the Sea Hawk, in the February issue. It seems that the last two Sea Hawks are still active, although the FRU told me that they would be retired at the end of '68.

I would like to set the record straight, regarding M. J. F. Bowyer's article on 'Colours 1968'. The article was most interesting and I only found two errors. Firstly, the RAE Shackleton, WR972, is not light blue on the wings and fuselage, but standard RAF pale grey, as on most RAF ex-silver aircraft. Secondly, all Danish Air Force F-104Gs are painted NATO grey overall, with white upper surfaces to the wings. Only the extreme rear of the fuselage is silver. This light grey applies to the Danish F-104Gs. It is the TF-104Gs of the Danish Air Force that are silver, one of which was displayed at Coltishall last year.

Finally, the drawings of the Wessex had one thing omitted. All Wessex helicopters

of 18 and 72 Squadrons carry the legend 'Air Support Command' in small white letters above the door on the right side and in an equivalent position on the left side.

Adrian M. Balch, Swindon, Wilts.

M. J. F. Bowyer writes: *Wessex helicopters of 18 Sqn, being assigned to 2TAF, were not carrying 'Air Support Command' lettering when the aircraft featured was recorded.*

Lubricating plastic

ALTHOUGH I consider most Airfix kits of excellent content and value the ones which have given me most pleasure are your 'Museum Models'. More please.

The moving parts may bind if not properly treated and oil as a lubricant on a painted plastic model can be a messy proposition. My own method of lubricating rubbing surfaces is to roughen them with fine emery paper and rub a very soft pencil over the paped surface. This gives a trouble free graphite bearing surface.

The above models had such good moulded surfaces that where they were naturally green I merely varnished them after first polishing off the flash and adhesive lines with emery and 'Duraglit'.

Not caring to cement my sailing ships to the stand provided, but finding their lightness a disadvantage, I now mix up some pouring consistency epoxy and add a good measure of lead shot. This is poured into the hull where it spreads out along the lowest point of the keel thus contributing to stability and ensuring that the model cannot be accidentally dislodged from the stand with only a light touch.

A. Rodgers, Rutherglen, Glasgow.

Useful item

RECENT correspondents have given a number of useful sources of material for the addition of detail to models. Yet another item, which is 'freely available' in most households, is the plastic hair curler. These objects come in an astonishing variety of shapes and sizes and provide a wide selection of lengths and thicknesses of straight and curved rod.

J. B. Thomson, Dublin 6.

B for 'Bulwark'?

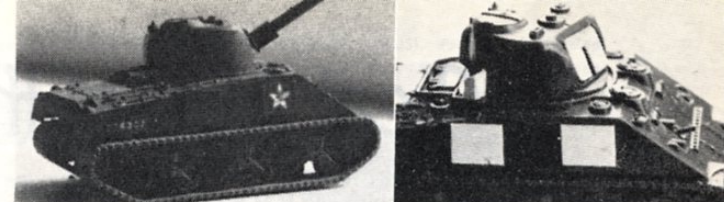
IN the March issue you show a Wessex 2 with a B on the starboard tail. Do you know what this is there for? I have an idea it could have been caused by over-close contact with 845 Naval Air Commando Squadron, from *Bulwark*; an RAF Wessex was suitably marked with B (for *Bulwark*?) last year.

P. Reachman, Helston, Cornwall.

Military Modelling—from page 448

for a demolition role in the US Army somewhat akin to the AVRE with a Petard mortar. The 7.2 inch rocket was fired from a hefty barrel fitted in place of the usual 75 mm gun and using its elevation and traverse controls. There was an opening in the turret side to allow the recoil gases to escape.

The Airfix Sherman kit (or the Midori equivalent) is assembled as in the instructions as far as the hull goes, though you can add applique armour plates on the hull side (9 mm x 7 mm rectangles) as in my model. Also optional are the rudimentary dustguards which were fitted each side of the hull front, also added in my model. The turret is assembled as in the instructions, except that the mantlet is omitted and the opening filled from behind with a rectangle of plastic card cut to fit. Cut a hole in this big enough to let the gun breech fit later. The mantlet in the kit is not used, and a new flat plate is cut as in the drawing. Trim the small shield from around the



Above, left: The completed M4 model with T76 rocket launcher. Right: Close up of turret and hull modifications from plastic card. Note deflector plate on turret side.

gun barrel and replace it with a new one cut as in the drawing. Now cut off the gun barrel to a 5 mm stump, and force fit a new barrel 24 mm long, cut from a length of Biro tube. Add sections above and below this as in the drawing, cutting these from scrap. You'll find that the new gun assembly will fit just like the 75 mm gun in the basic Sherman model.

All that remains is the slot in the turret side. This is 4 mm deep and 2 mm wide, cut from the bottom of the right side of the turret exactly in line with the pistol port moulded on the left side. Make a deflector plate from plastic card as in the drawing and cement it in place.

New Kits and Models—from page 462

a small model but is beautifully clear and fits very accurately to the model. Being basically one of the Hasegawa models imported from Japan, there is the usual great variety of underwing stores. In this case both bombs and fuel tanks are provided, all very accurately moulded in white plastic. There are 66 parts in the

kit which all fit precisely and there is little that we can find to criticise. Markings, of which there are two sets, are for US Navy aircraft in either VAH-123 or VA-196.

Our review samples came from Models of Portsmouth and are priced at 3s for the former and 9s 6d for the latter. Jones Bros also hold stocks. A.W.H.



New from Imai is this motorised 1:50 scale Chieftain model, priced at 22s 6d. Full review appears next month.

Sailplan—from page 459

tremely delicate job which I hardly consider worthwhile.

Belaying points Three methods of tying down the loose ends of working ropes were in general use for several centuries, and Fig 25 shows how lines are made fast to a keel (a), a cleat (b) and a belaying pin (c). These last two still survive in general use and were the usual method used for lines during the whole period covered by the Airfix range of ship models, the keel being replaced about the mid-1700s by bollards which are used only for very heavy lines and hawsers.

Making up belaying points from scrap plastic is not very difficult, and a model with its lines neatly tied off on belaying pins looks far better than one where the ties show along the deckrail, as usually indicated in the instruction sheet. The location of the belaying points varies from ship to ship, and I hope to include belaying points diagrams in later articles dealing with individual ships in more detail. But all of the pins will benefit from the addition of an extra coil of rope, after the line has been tied off and secured with a dab of adhesive. Some rigging thread is wound loosely round a former (Fig 26a), coated with shellac or varnish, then dropped over the pin and held with a spot of adhesive (Fig 26b).

Reef points These were mentioned in Part 2, and they are moulded into the sails of the Airfix kits. The most effective way to reproduce them on the model is with fine wire painted matt black, since thread will never hang naturally. The short lengths of wire are bent at right angles, one leg being pushed through the sail and then bent down. Fig 27 shows pliers in use to put in

reef points, and I find this job is best done before the sail is bent to the yard.

A quick-reference chart to the number of rows of reef-points, (very simplified) is given below:

| Date | Courses | Fore and main topsails | Mizzen topsails |
|------|-------------|------------------------|-----------------|
| 1660 | — | 1 row | — |
| 1680 | 1 row | 2 rows | — |
| 1700 | 1 or 2 rows | 2 rows | 1 row |
| 1710 | 1 or 2 rows | up to 3 rows | 2 rows |

From this it can be seen that the Airfix kit of the *Prince* (1670) has a rig which is incorrect for her date of building, but right for the refit after her later battle damage.

Footropes These are shown in Fig 28, which also shows the stirrups by which they hang from the yards. Neither *Revenge* nor *Royal Sovereign* should have them since they were not used until 1642, and the box illustration of Revell's *Mayflower* is wrong in showing them in the same picture as Pilgrims, although *Mayflower II* did actually carry these anachronisms.

Again these are best made of blackened wire, the stirrups being spaced about 8 scale feet apart and made about 2½ scale feet long, with the wire footropes tied at the yardarms and crossed over each other to tie on the yard at the opposite side of the mast.

Atmosphere Each of the Airfix models—whether made up following the kit instructions or using the modified principles I have outlined so far—is still a 'dead' ship, sailing forever with perfectly clear decks. To me this is all wrong. Even under the eagle eye of a dedicated old-time Captain no sailing ship would ever have

looked like this. Certainly the *Revenge*, *Prince*, *Sovereign* and *Victory*—fighting ships all—would have had swabs, rammers, match tubs and shot racks by the guns, water casks lashed at the mainmast partners, spare spars lashed down amidships, breechings and side-tackles on the guns, and spare coils of rope against the rails, even when the decks were cleared for action.

And even more certainly, no working ship would ever have its ropes cheesed down on deck in the pretty 'Swiss rolls' you see on *Victory* and *Cutty Sark* in their present berths. These are just a few of the hundred and one ways in which the true atmosphere can be created, but one fad of mine is never to whiten the decks of any but Navy ships. I cannot believe that the decks of the *Santa Maria*, *Mayflower*, *Golden Hind* or any other merchant ship were ever really holystoned to the standards often depicted.

As a personal preference also, I feel that a static full-hull model on a stand looks entirely wrong under a full press of canvas. I much prefer to see them with sails unbent and lines lashed as though they are tied up in harbour with their canvas being checked over in the sail-loft—a perfectly normal situation for any sailing ship. But this requires a pretty full and detailed knowledge of the rig if it is to be done accurately, and research on the part of the individual modeller in seeking out books and illustrations as a guide. I have no space here to go into the relevant details, but I would be happy to help anyone who wants to try it, or who would like any other sailing ship information. (Letters c/o The Editor, please, enclosing SAE).



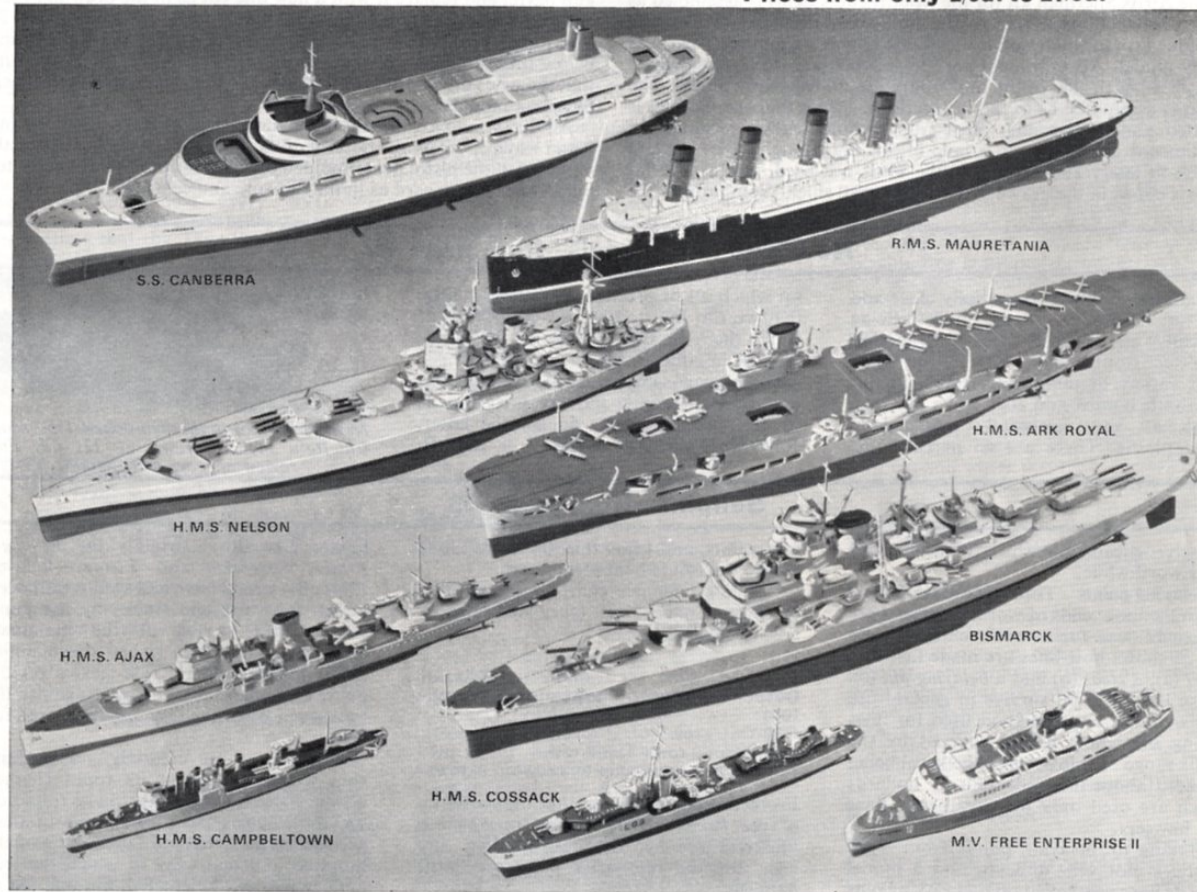
Above: Excellent conversion work by reader Jim Britton of Kirkham, Lancs, produced these three Lightning trainer models from Airfix kits. Left to right: Mk 55 (55-410) of the Kuwait Air Force, T Mk 5 (XS421) of 226 OCU Coltishall, and T Mk 4 (XM989:X) of 56 Sqn. Basic change is to the front fuselage and the Mk 55 also has the altered wings as given for our Mk 6 conversion in the January issue.

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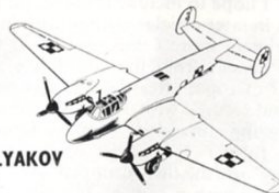


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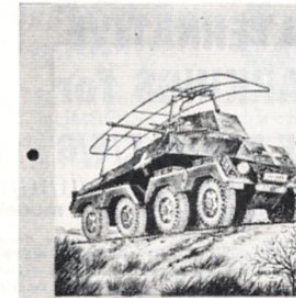


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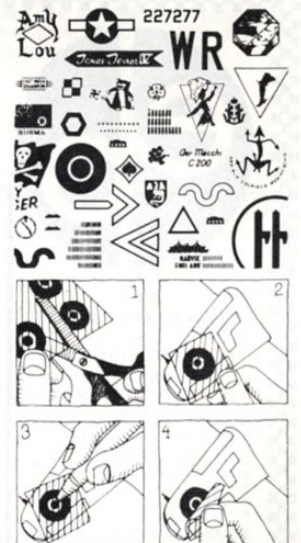
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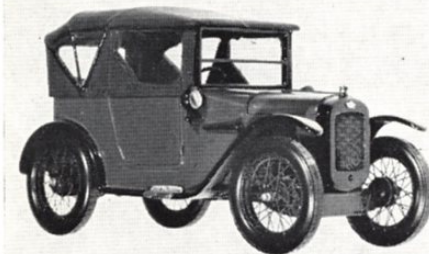
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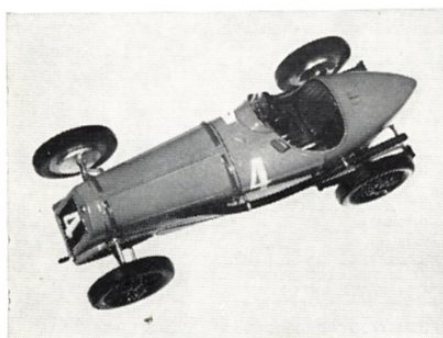
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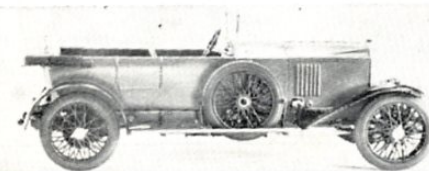
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